Guide to Designing and Managing Community Based Health Financing Schemes in East and Southern Africa

Version 1
Including Toolkit

Partnerships for Health Reform

PHR

The Partnerships for Health Reform (PHR) project seeks to improve people's health in low and middle-income countries by supporting health sector reforms that ensure equitable access to efficient, sustainable, quality health care services. Working in partnerships with national and local goverments and stakeholders, PHR promotes an integrated approach to health reform and positive changes in health policies, regulations, financing, and the quality, organization, and management of health services. PHR is funded by the United States Agency for International Development.

USAID's Regional Economic Development Services Office in East and Southern Africa (REDSO/ESA) seeks to support the overall development efforts of USAID in the health care financing sector by building local capacity to implement and manage sustainable health care programs in the region. REDSO/ESA's commitment to sharing and networking is based on the premise that exchanging experiences, information, insights, and knowledge among African nations is a fundamental building block of regional and country development. In the technical area of health care financing, primary activities include research, workshops, training and production of guidelines, study tours, South-South consultancies, and technical assistance to countries in the region.

Guide to Designing and Managing Community Based Health Financing Schemes in East and Southern Africa

October 2000

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Abstract

Community-based health financing (CBHF) schemes are currently operating to meet basic health care needs of rural populations in East and Southern Africa. These CBHF operations are diverse in composition and implementation, and the "lessons learned" from these experiences yield a wealth of information for communities interested in meeting their health care needs that are now unfulfilled.

This manual outlines steps that CBHF schemes have implemented successfully to bridge the wide gap between health care needs of the rural poor and limited local resources for health. The main purpose of the manual is to provide information to assist community partners to initiate successful programs, such as: basic components of a CBHF scheme; roles and responsibilities of key stakeholders in the community; tools to assess the feasibility and long-term sustainability of schemes; financial and management guides to cost services, determine payment levels, and design cost-efficient programs; and other management tools to ensure successful scheme operations.

Introduction

Development of the *Guide to Designing and Managing Community-Based Health Financing Schemes* was possible thanks to funding from the United States Agency for International Development (USAID) Regional Economic Development Services Office/East and Southern Africa (REDSO/ESA) to the Partnerships for Health Reform (PHR) Project. This manual and the toolkit that follows are the products of a broad-based collaborative effort among various health financing, management, health care service delivery, and community development professionals in the East and Southern Africa region.

The main purpose of the manual is to provide information, guidelines, and examples to existing and emerging community-based health financing (CBHF) schemes, in order to bolster program operations and performance. It is also intended to serve as a resource for professionals with a moderate level of experience with health care financing concepts and activities. The manual may be used in community-based health programs in other parts of Africa, as well as other parts of the world.

How to Use this Manual and Toolkit

This manual can be used by a wide variety of individuals — professionals with experience in health care financing, community development, health service delivery, and management, among others. The manual is divided into eight chapters, each designed to help the reader follow the process of building the basic blocks of CBHF from design to implementation, and finally monitoring and evaluation. Accompanying the manual is a toolkit that provides overviews of various management software and the relative strengths and weaknesses of each.

No manual can provide exhaustive information on all aspects of CBHF operations, but this document attempts to lay the framework for scheme start-up and design. The authors hope that local technical experts and rural community participants will benefit from the details provided and continue to share their “lessons learned” in the future.

Acknowledgments

Many organizations and individuals committed to affordable, accessible health care in developing countries contributed to the compilation of this manual. Without the frank, honest feedback of many seasoned field staff, this manual would not have been possible.

PHR wishes to thank the core members of the Community-Based Health Financing Network, which guided PHR consultants and staff through the original research and analysis of several community-based health financing schemes in the spring of 1999. The result of that effort, PHR's Technical Report Number 34, offered "lessons learned" from these field programs and recommendations for potential replication of these efforts in rural communities across East and Southern Africa. Out of the recommendations of that report grew the need for a manual or set of "guidelines" for technical staff to use in the development and refinement of community-based financing mechanisms.

PHR also expresses its gratitude to many experts in health care financing and community-based programs, who offered valuable comments, edits, and guidance in the process of shaping the manual into a user-friendly product. Contributors to the manual include: Dr. Chris Atim, PHR West and Central Africa; Dr. Robert Basaza, Ministry of Health in Uganda; Mrs. Judith Brown, Mrs. Violet Kawira, and Mr. Obadiah Ndungu, Chogoria Hospital, Kenya; Dr. Elizabeth Bukusi, Christian Health Association of Kenya; Dr. Mark Bura and Mr. Gideon Mbalakai of the Evangelical Lutheran Church of Tanzania; Mr. Aloys Ilinigumugabo, Center for African Family Studies; Ms. Irene Karimi and Ms. Chandra Reddy, K-REP Holdings Ltd of Kenya; Mrs. Allen Magezi, Child Health and Development Center at Makarere University in Uganda; Mr. Augustine Masiko, ILO/UCBHFA in Uganda; Dr. Gerry Noble, Nsambya Hospital of Uganda; Mr. Norman Patterson of the Church of Uganda Kisiizi Hospital; Mr. Rogatian Shirima, Mr. Maximillian Mapunda, Dr. N.H.S. Mlay, Dr. Faustin Njau, and Dr. George Sangana, the Community Health Fund of Tanzania; Mr. Francis Somerwell, NHHP/UCBHFA of Uganda; Dr. Blaise Uhagaze and Mr. Sosthene Bucyana, PHR Rwanda; and Ms. Elodie Yard, Center for International Development and Research in Uganda.

We hope this manual serves as a resource for technical staff and anyone who wishes to improve health care access and services in East and Southern Africa, and around the world.

PHR
Bethesda, Maryland
October, 2000

Acronyms

AIDS	Acquired Immune Deficiency Syndrome
CAT	Cost Analysis Tool
CBHF	Community-based Health Financing
CBHI	Community-based Health Insurance
CHF	Community Health Fund
CHW	Community Health Worker
CORE	Cost and Revenue Analysis
CVP	Cost-Volume-Product
ESA	East and Southern Africa
HIMCIS	Health Insurance Membership, Claims, and Information System
HUMC	Health Unit Management Committee
IUD	Intrauterine Device
KAP	Knowledge, Attitudes, and Practices
KSA	Knowledge, Skills, and Attitudes
KSH	Kenyan Shillings (currency)
MCH	Maternal and Child Health
MHO	Mutual Health Organization
MIS	Management Information Systems
MOH	Ministry of Health
MSH	Management Sciences for Health
NGO	Non-governmental Organization
OCP	Oral Contraceptive Pill
PHR	Partnerships for Health Reform

REDSO/ESA	Regional Economic Development Services Office/East and Southern Africa
SWOT	Strengths, Weaknesses, Opportunities and Threats
TBA	Traditional Birth Attendant
USAID	United States Agency for International Development
WCA	West and Central Africa
WHO	World Health Organization

1. The Basics of Community-Based Health Financing Schemes

Before examining approaches to community-based health financing (CBHF) schemes and costing methods of the scheme, it is important to understand the foundation upon which these approaches rest. This chapter includes:

- Introduction
- Objectives of CBHF Schemes
- Definition of CBHF
- CBHF's Role in ESA
- Basic Scheme Components

1.1 Introduction

Africa has suffered an economic crisis for the past two decades and, as a result, the social sectors, including health, have experienced severe cuts in resources and funding. Because government capacity to provide health services is limited and the need for affordable health services is increasing, alternative methods of financing and accessing health care must be sought. These include community-based health insurance, prepayment schemes, and other forms of health coverage, which have sparked interest as means of pooling risks and mobilizing resources for health care financing. Many community-based health financing (CBHF) schemes in the East and Southern Africa (ESA) region currently employ methods of costing (or use no method) that render the schemes financially inefficient. As a result, the schemes face difficulty in sustainability and even in fundamental operation.

This manual provides simple, user-friendly information for initiating, operating and improving CBHF schemes. It addresses the basic needs of schemes, including management, financing, organization, marketing, and community participation. It gives guidance for mid-level health care workers who already have some experience with schemes and health financing. Its language attempts to simplify the concepts for the purpose of keeping the manual user-friendly, but it may not be appropriate for use by entry-level workers lacking experience in health financing. By identifying and examining the major aspects of CBHF schemes, it allows communities, scheme organizers, and health care workers to determine which approaches best meet the needs of those lacking access to health care.

The manual is accompanied by a toolkit that describes costing software and other tools that may be helpful for CBHF scheme management. Because these tools were originally designed for other purposes, — for example, for small businesses or reproductive health services — the toolkit examines the potential of each for use in CBHF schemes. In particular, the tools may help schemes build their capacity in costing of services and thereby work towards some of the larger goals of health financing mentioned below.

CBHI versus CBHF

Some passages in this manual, usually literature citations, use the term “community-based health insurance” or “CBHI” instead of CBHF. The term “CBHI” was and is used widely in literature and discussion in health care financing circles. For this manual, however, participants at a manual review workshop (March 2000) opted to use the term CBHF in order to more accurately reflect the nature and operation of schemes existing in the East and Southern Africa region.

1.2 Objectives of CBHF Schemes

The need to address the issue of inadequate health care funds is evident. Because governments cannot cover the health care costs of their populations, they must identify other sources of funds. CBHF schemes are a mechanism for mobilizing community resources to share in the financing of local health services. In addition to serving as a financing mechanism, CBHF schemes aim to achieve the following objectives:

1. *Improved access:* Schemes seek to increase access to health care for those who have some capacity to pay, but who may not be able to pay user fees for each visit by a family member.

2. *Improved quality:* People are more willing to pay for services when the services are of good quality. CBHF schemes can contribute to this by increasing both the amount and the reliability of community resources mobilized to support local health facilities. When costs are better covered, services can afford to operate at increased levels of quality. In addition, as Stephen Musau states in the 1999 PHR report *Community-based Health Insurance: Experiences and Lessons Learned from East Africa*, "CBHI schemes could make a significant impact on the quality of health care through their contractual relations with health care providers. For example, there is scope to negotiate for cost and quality, particularly where the insurance scheme has a number of providers from which to choose." [1]

3. *Improved efficiency:* Schemes seek to *increase the efficiency in the allocation and use of available resources* through improved accounting, financial management, and utilization management tools. This enables more accurate identification of inflows and uses of funds, which in turn helps prevent fraud and abuse of the system.

4. *Equity:* Schemes attempt to make health services more *equitable*. Because government subsidies and other funds for health care are dwindling and coverage may not reach a large percentage of the population, many of the poorer segments of the population have little or no access to affordable, quality health care. CBHF can narrow the disparity in health services available to those who have health care and those who do not by scheduling premiums or membership payments to coincide with the seasonal availability of people's income, often related to harvests. The schemes' incorporation of risk- and cost-sharing in setting premiums makes health services more sustainable by creating incentives for appropriate use of services by both service providers and patients. Still, the poorest of the poor might be excluded from this system, given that schemes require at least a minimal payment. This issue and some possible solutions for it will be addressed in Chapter 7.

[1] Musau, Stephen. 1999. PHR Technical Report No. 34. *Community-based Health Insurance (CBHI): Experiences and Lessons Learned from East Africa.* Bethesda, MD. Partnerships for Health Reform Project, Abt Associates Inc. p.8.

1.3 Definition of CBHF

The terms "community-based health insurance" and "community-based health financing" are based on the definition of mutual health organizations (MHOs) in West and Central Africa (WCA): A CBHI scheme is a "…non-profit health insurance scheme for the informal sector, formed on the basis of an ethic of mutual aid and the collective pooling of health risks, in which members participate in its management."[2] It is important to note that the management of schemes currently operating in the East and Southern Africa region does not always include scheme members, and this is a crucial difference from the schemes in the WCA region. However, this is an objective to which ESA schemes should aspire. The centrality of member and community participation will be discussed at greater length in Chapter 7.

Also in contrast to WCA schemes, the term "community-based" is perhaps somewhat misleading in describing the schemes in the ESA region. They are "not community-derived or -generated schemes in the same way that many in WCA are. Rather, the schemes in East and Southern Africa are provider-initiated."[3] For example, several schemes in the ESA region were initiated by mission hospitals. (One exception is the Community Health Fund (CHF) in Tanzania which was initiated by an intermediary source, namely the Ministry of Health (MOH). When the CHF was established, the MOH was not providing services at the level offered under the scheme.) The major weakness in this arrangement is that scheme management and providers are the same entity, thereby weakening the leverage of members who may seek to improve, change, or impact the scheme. It also affects the transparency of the scheme in its decision making, allocation and use of resources, and flow of funds.

On the other hand, it is worth noting that health facilities may consider themselves integral parts of the communities they serve. This can help offset the potential conflict of interest in a scheme set up by a health facility, particularly if the scheme is allowed to have a separate management and legal status.

Finally, the term "insurance"— as in Community-based Health Insurance — is also misleading. In fact not all CBHI schemes are *insurance* schemes. It is more accurate to call them "community-based health financing schemes" in order to reflect the various approaches to financing that exist in the ESA region. The methods of community-based health financing seen today range from insurance to simple prepayment, savings-and-credit, and cooperatives and solidarity movements; and from for-profit schemes to non-profit schemes. Some, such as the Community Health Fund in Tanzania, are partially subsidized by the government, while others receive funds from external donors. As Musau states, we are examining "health financing mechanisms, including new alternatives, focusing on, but not necessarily limited to, health insurance." [4] This manual will use the term CBHI in literature citations for the sake of continuity and consistency with past works and definitions, but, on the whole, the term CBHF will be used to represent wide array of efforts to improve and expand community-based health financing.

[2] Atim, Chris. 1998. *The Contribution of Mutual Health Organizations (MHOs) to Financing, Delivery, and Access to Health Care: Synthesis of Research in Nine West and Central African Countries.* p.2.
[3] Musau, p.5.
[4] Musau, p.xi.

"Prepayment" versus "Health Insurance"

A basic principle of health insurance (as opposed to simple prepayment) is to insure the greatest risks first. This allows a scheme to share risk among its members and protect members against high-cost events. Following this logic, a CBHF scheme benefits package would first insure its members against high-cost, but low-probability events. An example of this would be to offer inpatient hospitalization as a benefit, since it is more costly, but less likely, than need for outpatient services at a health center or hospital.

In contrast, because many CBHF schemes operate on the basis of prepayment rather than insurance, they have chosen to first cover benefits for less costly, but more common services, such as outpatient curative and preventive care. Schemes can increase the ability of community residents to join the scheme by "smoothing" the timing of payments for membership premiums to coincide with times when income from harvest or other work is available to community members.

Whether the scheme is prepayment or health insurance, by mobilizing community resources, the scheme and its members can generate funding for health services. It can negotiate with service providers to obtain price discounts or improved quality. It can also include in its benefits package services that are most important to the community.

1.4 CBHF's Role in ESA

Section 1.2 enumerated the primary objectives of a CBHF scheme: to finance equitable access to quality health care at affordable rates. In addition, CBHF schemes may render other social services, such as cost-sharing for funeral expenses, like the Engozi Societies in Uganda.

The schemes have great potential for the ESA region, not only to address health care needs but also to strengthen communities through greater participation, ownership, and accountability. The mutual health organizations that began in West Africa have a very strong community component, which serves to strengthen their leverage with providers and with each other through risk-sharing. Many of the MHOs were initiated and are owned by members, which greatly impacts that success of the schemes. Atim has identified the following "building blocks for a successful CBHI operation:"[5]

- Active and engaged community;
- Health facility and motivated health care personnel;
- Clearly defined roles and responsibilities among key players; and,
- Basic operating structure.

Atim also notes that "CBHI schemes…have achieved the greatest degrees of success in areas where the community's interests and participation are directly linked to

[5] Atim, Chris. September, 2000. *Training of Trainers Manual for Mutual Health Organisations in Ghana.* Bethesda, MD: PHR Project, Abt Associates Inc.

the management and ownership of the scheme." [6]

In order to involve the community, the concept of CBHF needs to be marketed. A scheme cannot achieve critical mass for starting without members being drawn to it voluntarily. Not only is marketing key to obtaining adequate enrollment, but creating a benefits package that responds to community needs at a reasonable price is central to a scheme's 'attractiveness.' The issue of social marketing will be addressed in Chapter 6.

Given the state of health care in the ESA region, it is clear that new approaches must be taken to meet the health needs of the underserved. The alternatives between government-subsidized health care and direct individual payments include fee-setting, cross-subsidization, reserve funds for the poor, insurance/prepayment schemes and cooperative schemes. Depending on the setting, these alternatives have varying degrees of potential to fill the gap between those who can and those who cannot afford or access health care.

1.5 Basic Scheme Components

The basic components of CBHF schemes are the owners or members; the scheme management, which should include member representation; the health facility and its service providers; and in many cases, donors. How central a role each component plays is important to the overall operation, success, and sustainability of the scheme.

Figure 1.1 depicts the paradigm of a community-based health financing scheme, wherein the members of the community are also scheme owners. It shows pathways of benefits that accrue from successful operation of a scheme, not only the primary benefit of improved health care for individual members but also the positive secondary and tertiary effects a successful scheme can have on the community and on the local health system.

While the management design of some CBHF schemes in the ESA region gives the community the central role in scheme management, most existing schemes do not have a strong community component. This results in limited awareness and popularity of the schemes since "the involvement of the community in the management …is important in ensuring that the community has a sense of ownership and identity with the scheme."[7] It also impairs penetration of the community for expanding the membership base.

Another basic design problem occurs when there is little distinction made between a scheme and the management of the hospital or health facility. Ultimately, this affects not only the engagement of the community and its interest in the scheme because of a lack of community ownership, but "there is little objectivity when the scheme management addresses the needs of the scheme members if the same management is running the health facility."[8] This can have numerous implications, the biggest of which are perhaps the potential inefficiency and lack of transparency. One goal for these schemes should therefore be to increase community participation. Although various types of community-based health financing exist, and cost-sharing has potential to effectively redress the lack of access to health care, "observation shows that cost-sharing has led to

[6] Ibid.
[7] Musau, p.20.
[8] Ibid., p.20.

progress when there was serious mobilization of the population, and when the quality of health care was improved."[9]

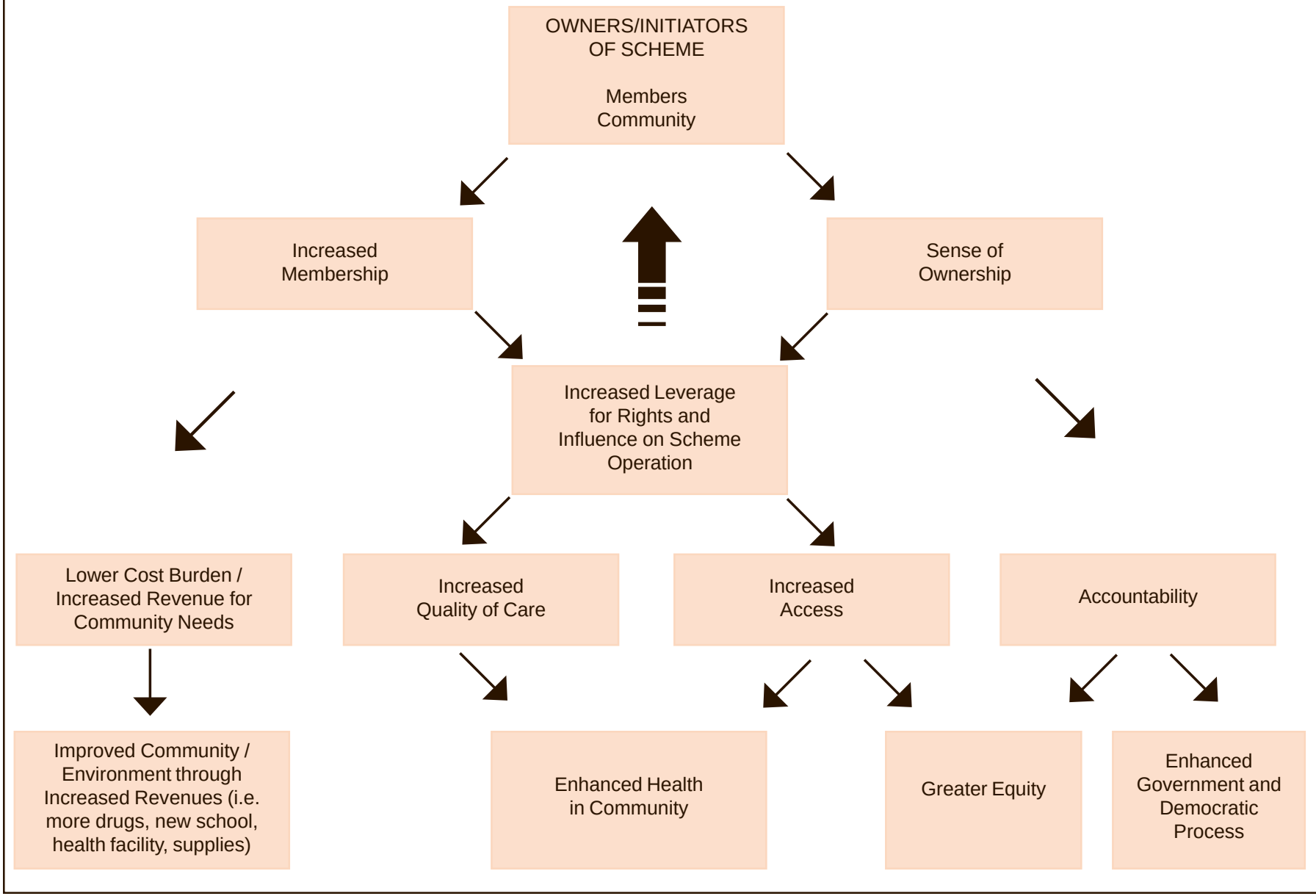
The "ideal" operation of a CBHF scheme depicted in Figure 1.1 shows the community members as the initiators/managers of the scheme. It is unlikely that many schemes will be able to achieve this goal in the near future, but there is a modified alternative. This would be a scheme in which the service providers and members operate as *partners* in the management of the scheme. This set-up can still produce many of the benefits achieved by the member-managed scheme.

Historically donors have played a major role in supporting cBHF schemes. Donors such as the United States Agency for International Development (USAID) have contributed primarily in the areas of health system decentralization, health insurance, and cost sharing programs, with a general emphasis on supporting overall health care financing national strategy formulation.

To initiate or operate a scheme, its organization must be well planned. How a scheme is structured, the environment in which it operates, the roles of the 'players' are factors which should be researched and examined before the actual costing methods can be discussed.

[9] Kadder, Miloud, Bruno Galland and collaborators. 1997. *Children in the Tropics: Prepayment of Health Care.* No. 228. Paris, France: International Children's Centre. p.6.

Figure 1.1: Ideal Scheme with Community Participation



2. Framework for Organizing CBHF

There are several key elements of successful CBHF schemes that planners and managers should take into consideration before implementing a scheme. These basic elements are:

- Community Characteristics and Enabling Environment
- Roles and Responsibilities of CBHF Stakeholders
- Services Offered and Personnel Involved
- Organizational Structure

2.1 Community Characteristics and Enabling Environment

"The majority of the people in Sub-Saharan Africa live in rural communities. Individuals in this group tend not to be employed in the formal sector, such as commerce and industry; they are engaged in small-scale farming, sometimes combined with petty trading and/or the production of local handcrafts. Their cash incomes are, as a result, relatively low and seasonal. "Access" to health services can be seen as both geographic and financial. CBHI focuses primarily on financial access, through services such as ambulance for emergency evacuation, which may be part of a CBHI benefits package. In this context, access therefore implies that the premium level and the payment schedule are compatible with this pattern and level of cash income. Community participation in the design of the schemes is the main mechanism for achieving financial compatibility and, in addition, helps to ensure that the benefit packages offered by the schemes are socially and culturally acceptable to the community." [10]

Chapter 1 described CBHF schemes as having achieved the greatest degrees of success when the community's interests and participation are directly linked to the management and ownership of the scheme. The target population's understanding and acceptance of the scheme's goals and objectives and operating procedures are critical factors in the design and structure of the scheme. One of the primary lessons learned from the 1999 PHR CBHI Lessons Learned report is that "community participation is important to the success of a community-based health insurance scheme. Such participation needs to be active so that the community has a say in decision- making."[11]

Communities interested in establishing CBHF schemes will require data on many factors, such as unique community characteristics and traditions; social and cultural factors in health care utilization; patterns of decision making (both within and outside the household); and health management and expenditures on health (e.g., using traditional healers vs. modern medicine.) CBHF planners must collect, assemble, and interpret this data in order to design appropriate mechanisms for promoting alternative health financing and for creating a long-term demand for it. "So in order to succeed, health [financing] schemes for the non-formal sector must take the particular conditions and circumstances of their target groups into account."[12]

A number of factors determine the feasibility of setting up CBHF schemes and ensuring their effective operations.[13] These fall into two categories:

[10] Adapted from Dyna Carol Arhin. 1995. *Rural Health Insurance: A Viable Alternative to User-Fees? A Review and Evidence from Three Countries*, London, United Kingdom: London School of Hygiene and Tropical Medicine. p.3

[11] Musau, Stephen. August 1999. *Community-Based Health Insurance: Experiences and Lessons Learned from East and Southern Africa*, Technical Report 34. Bethesda, MD: Partnerships for Health Reform Project, Abt Associates, Inc. p. xii.

[12] Bennett, Sara, Creese, Andrew, and Monasch, Roeland. 1998. *Health Insurance Schemes for People Outside Formal Sector Employment*, Current Concerns ARA Paper Number 16. Geneva, Switzerland: World Health Organization. p. 6.

[13] Adapted from Atim, Chris. 2000 (in publication). *Training of Trainers Manual for Mutual Health Organizations in Ghana.* Bethesda, MD: PHR Project, Abt Associates Inc.

1) Community Characteristics

- ▲ Community confidence in the project's concept and initiators;
- ▲ Existence of a real need for financing health care;
- ▲ Existence of community bonds and mutual self-help among the residents;

2) Enabling Environment

- ▲ Supportive government policy environment;
- ▲ Availability of quality health services;
- ▲ Favorable socio-economic development in the region or locality;
- ▲ Cooperation of all key stakeholders (including the traditional authorities, district assemblies, service providers, etc).

These factors for CBHF schemes are discussed in more detail below.

Community Characteristics

Confidence in the Project's Initiators and Operating Concept

Residents of a community for which a CBHF scheme is proposed must have confidence in the project's initiators before they entrust their premiums to the organization. Therefore, earlier relations between the people and the project's initiators are important factors in evaluating the potential for a CBHF scheme.

The people's confidence also depends on the success or failure of similar projects in the area, such as service cooperatives, savings and loans, and credit unions. Scheme initiators must examine earlier efforts and analyze key factors in their success or failure in order to judge the feasibility of the plan to set up a CBHF scheme and to identify the best approach to use.

The support of local authorities—both official and traditional—regarding the project is also important. For this reason, it is usually in the initiators' interest to contact the authorities at an early stage of the project. However, this support is not always essential prior to starting a scheme. Initiators can gradually bring local authorities into the process as operations take off.

A Genuine and Priority Need for Health Care Financing

In order for the targeted population to support and join a scheme, it is necessary that the scheme not only meet a real need — resolve the community's health care financing, access, and reliability problems —, but also the need must be considered a priority. If this need is not felt before the project is launched, initiators should help the people clarify and express their needs during the early stages of implementation.

Existence of Community Bonds or Predisposition toward Mutual Self-Help

Community links and interdependence are essential factors in all mutual aid groups. Solidarity may stem from a number of situations, such as shared residence in a village or neighborhood, working in the same company, or membership in a social movement.

Enabling Environment

Supportive Government Policy

CBHF schemes work best in a local and national policy environment that is amenable to innovations in health care financing and service delivery, and where non-governmental organizations are provided opportunities to grow and expand. Given the scarcity of resources in the majority of ESA countries, governments have recognized the need for alternative health financing mechanisms, including user fees, prepayment schemes and community-based financing options. "Governments have an important role to play in facilitating the creation of schemes – and regulating schemes to prevent them from having adverse impacts on the broader health care system."[14]

For example, many ESA governments mandate national health policies including free or subsidized health services for the population, such as childhood immunizations. CBHF schemes could incorporate to some degree these services and help underwrite the costs of services for scheme members. Similarly, governments could provide protection against catastrophic losses, such as malaria epidemics or cholera outbreaks, in the form of financial support, reinsurance, or guaranteed funds.

Availability of Quality Health Care Services

A CBHF scheme must provide a range of health care services that meets the community's priority needs. These services may be provided by public or private providers, such as physicians, nurses, or physical therapists. These services also must be offered in locations that are not too distant from the residences and workplaces of the target population.

The services must be of high quality, in terms of both medical care and the way the patient is treated as an individual. People may be dissatisfied with health facilities because, for example, there are periodic shortages of prescription drugs. Employees may lack motivation to treat patients appropriately because of low salary levels, unreliable equipment, and other factors. The CBHF scheme should expect to address these problems, using its cash to purchase prescription drugs or to purchase or repair equipment.

In East and Southern Africa, CBHF schemes are often established by existing health facilities as a means of improving the facility's financing, while also improving the community's access to services. Where the facility is not close to the population it wants to serve or its services are too costly, the CBHF operation may establish its own health centers or hospitals.

[14] Bennett, Creese, Monasch. p. vii.

If facilities are set up by the scheme, they should be legally, financially and managerially separate from the scheme. This enables the scheme to more effectively represent its members, and prevents poor management of one of the entities (facility or scheme) causing difficulties for the other. It is also consistent with the health insurance principle of separation of service provider and payer.

Select Management Structures among CBHF Schemes

In the Chogoria Hospital Health Insurance Scheme (Kenya) and the Kisiizi Hospital Health Scheme (Uganda) there is little separation between the schemes and the management of the hospitals. The same applies to the Atiman Health Insurance Scheme (Tanzania) where there is no separation between the dispensary, the church, and the scheme. This lack of independence results in little objectivity when the scheme/facility management addresses the needs of the scheme members. The Mburahati Health Trust Fund scheme (Tanzania), however, is fully managed by the members. [15]

Favorable Socio-Economic Development Dynamics

Economic development facilitates the introduction of a mutual financing system for health services, especially in rural areas. Stable jobs give people financial resources that, although insufficient to cover the cost of their health care individually, enable them to afford health care collectively.

Cooperation of Key Stakeholders

CBHF schemes rely on a diverse set of stakeholders to perform functions that create a web of interdependence and help the scheme to run efficiently and effectively. The existence of solid, trusted relationships among all players–scheme members, scheme managers, health service providers, and local leaders—is a vital first step toward ensuring CBHF success. Building on these trusted relationships, scheme managers can help foster clearly defined roles and responsibilities among key players in CBHF scheme operations.

2.2 Roles and Responsibilities of CBHF Stakeholders

Key players and diverse stakeholders are involved in ensuring that CBHF scheme operations run smoothly, efficiently and effectively. These key players and decision makers include:

Local Community Members

Members of the community are the critical link in the CBHF equation, as they are the consumers of health services and can initiate scheme formation and development. They recognize the need for affordable and accessible health care, and therefore come together to pool resources and share the risks of health coverage. In recent years, many CBHF schemes have originated from health facilities, which reach out to the community

[15] Musau. p. 18

and help foster a community organization in the form of a CBHF scheme. In these instances, the facility can be perceived as part of but necessarily distinct from the community, particularly in rural areas.

Once empowered with the common resources of a scheme, the community acts to protect its collective health and well-being in the long term. For example, the poor community of the Mburahati ward in Tanzania pooled resources and formed a partnership with a local health facility after the community began to understand that once they organized, they could negotiate with a provider instead of being "held hostage" to the service provider. [16]

Supervisory Committee

The "supervisory committee," or managing scheme group, which comprises representatives of the community, the health care facility, and other key local authorities, must ensure that the scheme is well designed, properly organized and operating, and fully marketed to the community or target population. The committee directs the scheme managers, refines operations, evaluates and monitors performance indicators, and serves as a liaison between the community, scheme members, and health providers. The committee may also build into its terms of reference mechanisms to handle all marketing and promotional activities.

CBHF Fund Managers

The fund managers have day-to-day responsibility for efficient and effective operation of the scheme. This includes implementation of risk management measures, data management for monitoring costs, internal control measures to prevent fraud, and relations with community members, service providers, and scheme staff.

Health Service Providers

The health care professionals treating the members of the CBHF scheme must ensure that the community's health needs are met and that the standards of care are of sufficient quality to satisfy scheme members. Health staff who are trained in CBHF protocols and who encourage the community to utilize the health services in an appropriate manner contribute substantially to the success of the CBHF scheme. Motivated, well-informed service providers are necessary to ensure that CBHF operations are sustainable and well run.

Community Leaders

CBHF management teams consisting of community members, local leaders and service providers help facilitate communications among the scheme, its members and service providers. The management teams rely on local leaders, both traditional leaders and civil authorities, to help create a positive environment for the growth and expansion of CBHF membership and participation by the community.

[16] Musau. p. D-2

2.3 Services Offered and Personnel Involved

CBHF schemes tend to offer basic services such as primary health care, immunizations, family planning and pre-natal services. The CBHF schemes examined by the 1999 PHR CBHI Lessons Learned report offer primarily outpatient care at selected health facilities; those schemes based at mission hospitals offer some limited inpatient care as well. Due to the limited resources available to the schemes, exclusions or limitations are made for long-term or chronic illnesses such as HIV/AIDS, cancer, and tuberculosis.

The choice of services to be offered by the CBHF scheme must take into account three essential factors:

- Existing supply and quality of health care services;
- Members' ability to contribute financially; and
- The extent to which the health needs of the population are being met.[17]

As mentioned earlier, governments may be able to support CBHF health service delivery, by providing "free" or subsidized services or through other cost recovery mechanisms.

[17] Adapted from Atim, Chris. 1998. *MHOs in Africa; A Practical Handbook for Promoters, Managers, Administrators and Staff.* Bethesda, MD: PHR Project, Abt Associates Inc. p. 59-60.

Box 2.1 How to Choose the Services to be Offered

Two methods may be used to determine the services to be offered by the CBHF scheme. One starts by projecting the resources that will be available and then fixing the objectives (priority services) in relation to those resources. The second method identifies the priority needs or objectives and then calculates the resources needed for attaining these objectives.

1. The first method is appropriate when the principal constraints are limited revenue of the scheme and limited financial means of the potential members. Scheme organizers must:

a) Fix the approximate level of dues or premiums acceptable to the target population;
b) Calculate the number of potential members and the estimated annual scheme income;
c) Determine the priority health needs according to the means available.

2. The second method is appropriate when financial constraints are not the principal challenge. In this case, the organizers must:

a) Evaluate the priority health needs not covered;
b) Calculate the revenue necessary to cover these needs and the number of potential members;
c) Fix the subscription rate required to assure financial equilibrium.

Whatever the method adopted, it is necessary to consider different options for packages of services that can be presented to the supervisory committee or managing body of the scheme in order to choose the best one. A key variable is the extent to which members of the target population choose to become members of the scheme. This can be heavily influenced by the scheme's promotional or marketing activities. (Refer to Chapter 4 for specific information on matching premiums and benefits packages, and Chapter 6 for information on marketing.) The extent and nature of the services offered should then be revised in accordance with the number and priorities of members.[18]

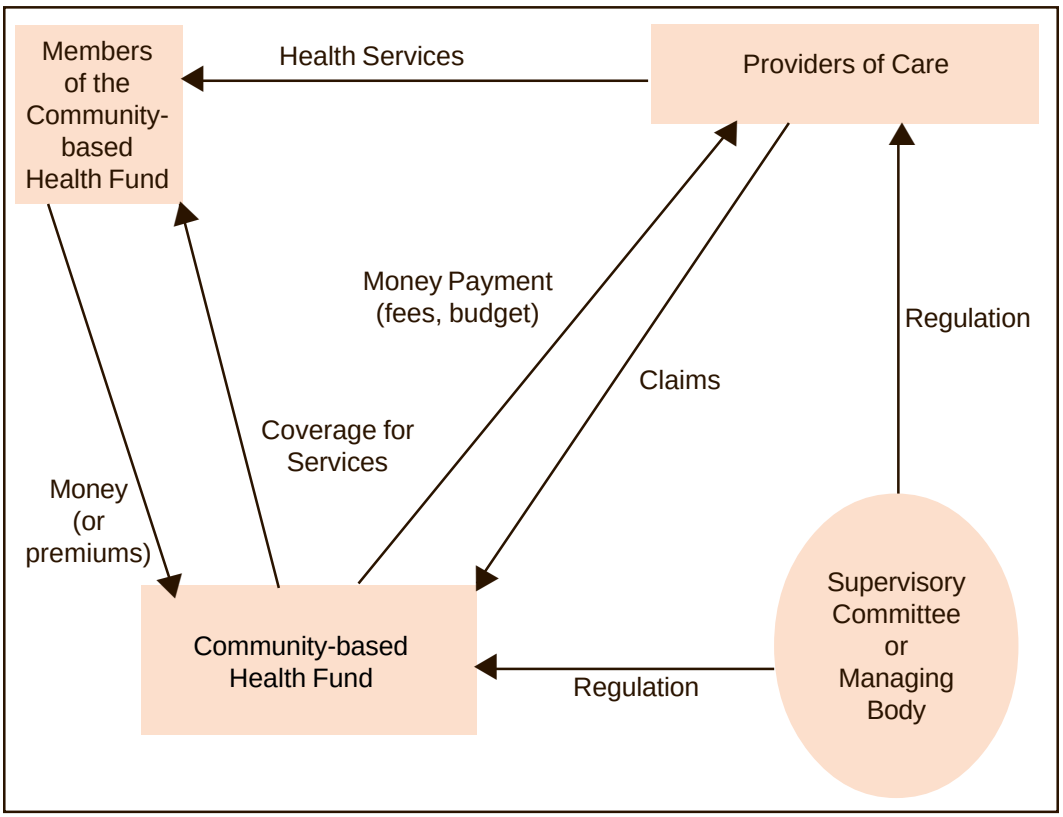
[18] Ibid. p. 59-76.

2.4 Organizational Structure

"Getting the initial architecture of the scheme right is part of the challenge, but adapting it as circumstances change is at least as important." [19]

One of the key points raised by the 1999 PHR CBHI Lessons Learned report is that schemes currently in operation express a desire to "adopt a business culture in their management styles." [20] The starting point for operating in a more business-like manner is to create an appropriate organizational structure. This requires having persons with competence in business planning, general management, accounting and financial management, and community liaison and marketing. The number and staffing structure is a function of the size of the community and scheme membership, the levels of services offered and available resources. Figure 2.1 shows a model for a CBHF scheme**.** Figures 2.2 and 2.3 present organizational structures of existing CBHF schemes.

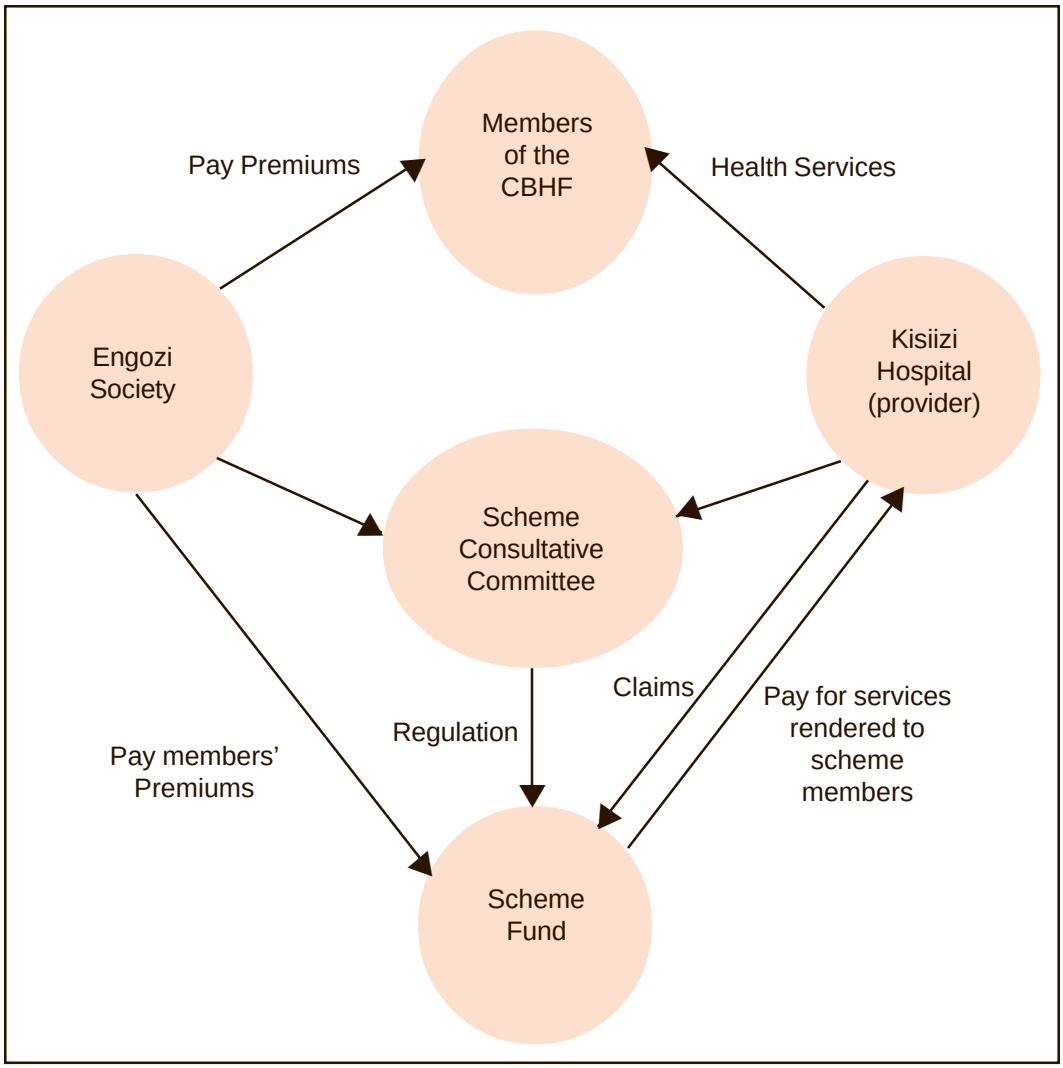
Figure 2.1 Model for CBHF Scheme Organizational Structure



Source: Adapted from Olsen and Mogedal, 1993

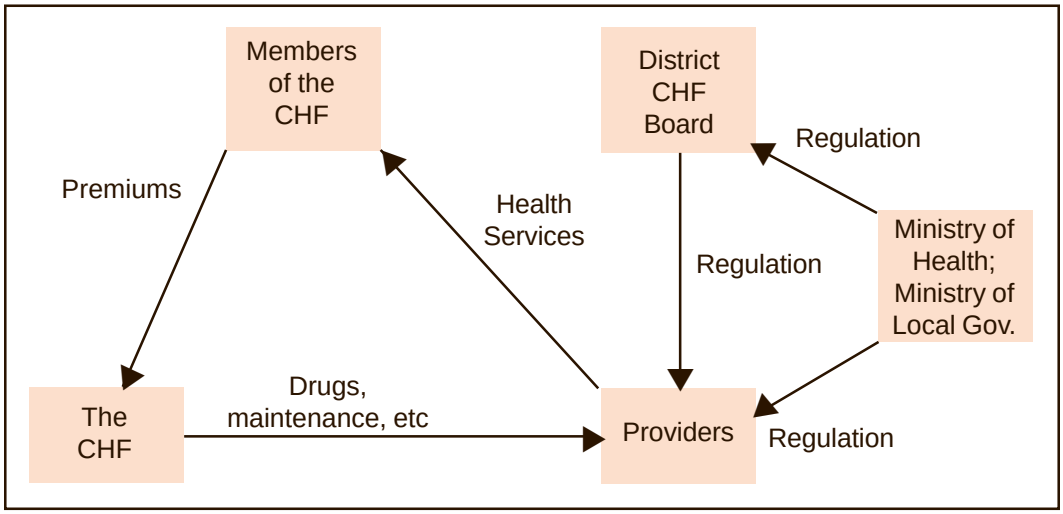
[19] Bennett, Creese, and Monasch. p. 55.
[20] Musau. p. xii.

Figure 2.2 Kisiizi Hospital Health Society Organizational Structure



Source: Musau, 1999

Figure 2.3 Community Health Fund Organizational Structure



Source: Musau, 1999

3. Feasibility Assessment and Set-up

The preliminary work involved in setting up a CBHF scheme is crucial to its success. The collected data serve as a basis to decide on the need for and feasibility of a scheme, and define the structure and role of the organization. Preliminary activities include:

- Data Collection and Management
- Conducting a Demand Analysis
- Designing the Scheme
- Identifying Volumes and Costs
- Creating a Mission Statement and Business Plan

Before establishing a CBHF scheme, initiators conduct a ***feasibility study***. A feasibility study assesses whether there are favorable internal and external factors in a community that would foster development and implementation of a CBHF scheme. This is to ensure that community members will join the scheme and that it will be financially sustainable.

3.1 Data Collection and Management

The first step in a feasibility study is to conduct a ***market analysis,*** or comprehensive assessment of a target population and its needs for a given product or service. The objectives of the marketing analysis are to define a problem or need in a community; obtain data that is specific to the problem; analyze and interpret the data; devise solutions to the problem; and design a plan of action. The basis for the analysis is statistical information that will be used to: assess the demand for a CBHF scheme; determine a benefits package; establish prices or premiums; ensure that there is an adequate supply of health services from hospitals, health centers, clinics, drug stores, both in terms of quantity and quality; design promotional strategies; and evaluate growth potential.

The pre-scheme data will also be used as a baseline from which to monitor and evaluate scheme impact. Periodic updates to the data sets will help to continuously monitor the scheme's environment and measure its achievement in improving access to health care and the general health of the community.

The scheme promoters should attempt to collect as much information as possible. Tables 3.1 - 3.6 provide a framework for data collection.

Table 3.1 Demographic Features

What Do I Need to Know?	Where Can I Get It?	What Do I Need It For?
Population size (service area)	- Census (national, regional or local government entity) - Health facilities - Other sources	To set target population and to estimate the number of potential members.
Average family size and number of households	- Census (national, regional or local government entity) - Health facilities - Other sources	To estimate the number of potential members; this is an important factor in deciding whether registration will be conducted on an individual or family basis and determines the resulting revenue. The statistics can also be used to evaluate adverse selection (if average number of registered family members is lower than average number of family members for the total population).
Breakdown of target population by age group and sex	- Census (national, regional or local government entity) - Health facilities - Other sources	Different age groups have different health needs. Knowing potential members by age group and sex will help identify each group's major health needs and usage rates, and their costs.
Composition of household heads by age group and sex	- Census (national, regional or local government entity) - Health facilities - Other sources	Generally, the primary marketing efforts will focus on the family head (who makes the financial decisions); knowing the age breakdown and sex of household heads will help identify which communication tools to use for which group, since not all groups respond to the same arguments.

Table 3.2 Socio-economic Features

What Do I Need to Know?	Where Can I Get It?	What Do I Need It For?
People's socio-economic activities	- Census (national, regional or local government entity) - Health facilities - Other sources	To help promoters select most effective and appropriate communication channels to reach the target group and will provide a basis to evaluate levels and seasonal availability of income.
Types of current and past community organizations (number of organizations and percentage of target population that belongs to these organizations)	- Community leaders - Government entities - Previous social studies - Previous surveys - Other sources	To help decide if the scheme can use such groups to attain its goals (membership, marketing, etc.) and whether community members already have a culture of joining solidarity groups.
Literacy rate	- Census (national, regional or local government entity) - Health facilities - Previous surveys - Other sources	To define the types and level of sophistication of communication channels that will be used.
Norms, customs and religious beliefs	- Discussions with community leaders - Observation - Other sources	To define the level of acceptance of insurance organizations, health seeking behavior and the communication channels the target group trusts most.
Most widely used communication channels (radio, television, person-to-person, etc.)	- Research/Survey - Baseline survey - Other sources	To define which communication channels are most widely accepted and to decide which ones to use to convey messages.

Table 3.3 Health Features and Epidemiological Data (includes Supply Analysis)

What Do I Need to Know?	Where Can I Get It?	What Do I Need It For?
Identify the different participants involved in health (who provides services, who receives them, who pays for them, etc.)	- Survey of different health providers - Ministry of Health and other health-related organizations	All the stakeholders (providers, community members and other groups) should be identified for potential support: marketing; technical and financial assistance; those who favor community ownership of the project; etc.
Analyze local health delivery system (health map): - identification of priority health requirements - number, geographical distribution and level of technology or sophistication of equipment of medical institutions and other care providers - types of health services provided - occupancy rate of medical institutions - most common diseases - number of cases of illness per month or year - number of hospitalization cases and average number of days - drug consumption	- Health providers - Ministry of Health and other development organizations (e.g., NGOs)	To identify community health needs and service availability, and to estimate costs. This data is essential to estimating costs for the financial feasibility study.

- average cost of prescription for each disease - drug distribution system, including opportunities for obtaining generic drugs - mortality/morbidity rates per infectious and parasitic disease - infant mortality rate - environment (sanitation, drinking water supply) - nutritional status		
Take into consideration the population's perception of care providers (in terms of quality etc.)	- Baseline survey	To select providers (in the case of schemes that are not provider-based) and to design benefits packages and marketing campaigns.
Current spending patterns on health care	- Baseline survey, health care providers, Ministry of Health, other sources	To assess affordability and need for CBHF scheme.
Determine the costs and quality of care (compared with those offered in neighboring regions)	- Independent survey of health providers (including visits) - Administrators of hospitals, clinics, etc. - Government entities (Ministry of Health) - Organizations involved in health (e.g. NGOs) - Past studies	To estimate costs and select health care providers (in the case of schemes that are not provider-based).
Identify the procedures of financing and running medical institutions	- Administrators of hospitals, clinics, etc. - Government entities (Ministries of Health, Finance, Decentralization, etc.) - Organizations involved in health (e.g. NGOs) - Past studies	To estimate costs and select health care providers (in the case of schemes that are not provider-based). The knowledge of such procedures is an asset during negotiations with member groups or entities that may provide services under contract.
Study health financing initiatives completed, in process or planned	- Administrators of hospitals, clinics, etc. - Government entities (Ministries of Health, Finance, Decentralization, etc.) - Organizations involved in health (e.g., NGOs) - Past studies	To identify potential sources of assistance and challenges, and to gain general awareness of the current status and development plans in the sector.

Table 3.4 Macroeconomic Framework

What Do I Need to Know?	Where Can I Get It?	What Do I Need It For?
Inflation rate	- Ministry of Finance	To estimate costs for financial projections.
Foreign exchange rate	- Ministry of Finance	To estimate the costs of drugs, etc.
Income levels among the population, breakdown, and seasonal availability	- Baseline survey - Government census or other surveys	To estimate the purchasing power of the target population and to identify its priority spending pattern.

Table 3.5 Political Features and Legislative Framework

What Do I Need to Know?	Where Can I Get It?	What Do I Need It For?
Verify existence of any legal requirements for organizations such as CBHF schemes	- Ministry of Health or other government institution - Insurance organizations	May be necessary to gain the right to conduct business, recognition and access to resources.
Opportunities for outside assistance (governmental and other organizations, technical and financial)	- Ministry of Health - NGOs and other organizations	Necessary to access resources and assistance.
Scheme promoters should meet with decision-makers and opinion leaders to present CBHF concept and garner opinions.	- Ministry of Health - Local leaders, chiefs, etc. - NGOs and other organizations	The likelihood is that if leaders support the project, the community members will be more inclined to join the scheme.

Table 3.6 Technical Features

What Do I Need to Know?	Where Can I Get It?	What Do I Need It For?
Background information on managing health insurance organizations: - Risks: adverse selection, moral risk, cost escalation risk - Membership: family or individual - Payment mechanisms: co-payment, third-party payer system, reimbursement, etc.	- Ministry of Health, - NGOs and other organizations - Publications (USAID, WHO, etc.) - Other CBHF schemes - Training seminars	To gain technical knowledge in managing insurance organizations and related risks, and to learn from past experiences.
Study of other CBHF schemes (visits, reports, etc.)	- Ministry of Health, - NGOs and other organizations - Publications (USAID, WHO, etc.) - Other CBHF schemes	To learn from past experiences and identify opportunities for guidance.

Box 3.1 Example: Kisiizi Hospital Health Society, in Uganda[21]

- ▲ Population of 100,000, farming community
- ▲ Hospital treated 58,361 outpatients in 1998 (43,566 at the hospital and the rest in community clinics)
- ▲ 11,909 patients were admitted for inpatient care in 1998
- ▲ Hospital has 180 beds in 6 wards
- ▲ Causes of morbidity in persons 5 years old and older are in order of importance: malaria, pulmonary tuberculosis, pneumonia, immunosuppressive syndrome, trauma, diarrhea, dysentery, congestive cardiac failure
- ▲ 96% of the community belong to Engozi Societies (local burial and ambulance societies)
- ▲ 1 outpatient visit per member per year
- ▲ Cost per outpatient visit – Ugandan Shillings (Ush.) 2,100
- ▲ Members requiring inpatient care – 6% per year (including deliveries)
- ▲ Median cost per inpatient stay – Ush. 22,000
- ▲ Membership mix – Children : Adults 1:1
- ▲ Average family size: 5.9 individuals

3.2 Conducting a Demand Analysis

Once all the initial data has been collected, the scheme promoters should analyze demand for services in terms of target audience (potential members) and products (types of health services.) This ***demand analysis*** should include the best possible estimates using the statistics collected, even though these estimates may be subjective.

When defining the target market, promoters should take into account the attributes of potential members. For example:

- ▲ *Geographic distribution*: Certain villages or communities might be at a disadvantage to join if the health providers used by the scheme are too distant from them. Projections for those particular areas should therefore be conservative.

- ▲ *Income level*: Households that are below a certain income level are not likely to join the scheme. The promoters should consider ways to alleviate the financial burden for those households, for example, by establishing a fund for the poor or researching governmental health assistance programs for the poor, particularly for benefits that are mandated by law and for which the scheme may be paid by the government.

- ▲ *Level of community solidarity*: Communities that have a history of high participation in community groups are more likely to join the scheme and support its solidarity concept.

[21] Adapted from Musau, Stephen. August 1999. *Community-Based Health Insurance: Experiences and Lessons Learned from East and Southern Africa.* Bethesda, MD: PHR Project, Abt Associates Inc.

Several tools exist to estimate people's potential or actual use of health facilities that might affect scheme utilization. These tools include:

- Surveys (very accurate 95 percent but usually most expensive;)
- Interviews;
- Focus groups; and,
- Clinic or hospital records.[22]

No single tool should be relied on; rather, a combination of approaches should be used, depending on availability of information. One of the most effective ways is to conduct a *baseline survey* and to make calculations based on the findings and the statistics collected.

Box 3.2 Example – Baseline Survey

If the population of an area is 100,000 and of those, 50,000 seek care at the hospital which will be the service provider, the scheme promoters can conduct a survey on a sample of 100 people. A community-based random sample survey could include the following sample questions:

- Are you aware of the concept of health insurance?
- Would you be willing to join a scheme?
- Which are your most pressing health needs?

Based on the responses, the number of potential members is calculated by using the percentage of respondents willing to pay for health insurance extrapolated to the number of community members who seek care at the hospital.

In the example, if 50 respondents state they are willing to join a CBHF scheme (50 percent of respondents), the estimated number of members is projected to be 50 percent of the 50,000 community members who seek care at the hospital: 25,000 potential members.

In Uganda, staff at Makerere University's Child Health and Development Centre worked in collaboration with the Ministry of Health's Planning Department to complete a detailed baseline survey in two communities in the Luwero area. Survey teams questioned heads of households or household representatives on basic demographic and health status information, as well as health care utilization patterns and expenditures. Households voluntarily participated in the survey, and data findings and analyses were made available to district and national health officials. The survey results assisted the MOH and Makerere University to develop community financing schemes appropriate to local conditions. See Annex A for further baseline survey details and a sample questionnaire.

While survey information is often invaluable, scheme promoters should also meet with decision makers and opinion leaders to present the CBHF concept and garner their opinions. The likelihood is that if the leaders support the project, the community members will be more inclined to join the scheme.

[22] Adapted from Else, Bradford, November 1999. *Improving Sustainability Through Multi-Disciplinary Financial Management: A Training Manual,* Bethesda, MD: Pathfinder International South Africa Program. p. 22-d.

The promoters should also contact or read reports from other schemes and attempt to evaluate the number of community members who joined at the inception of those schemes, and use the percentages of the schemes presenting the closest similarities in the following areas:

- ▲ community interest in and need of health insurance;
- ▲ existence of solidarity links among potential members;
- ▲ confidence level in concept (can be derived from membership rates in other forms of community groups);
- ▲ level of quality of health care services;
- ▲ initial marketing activities (extent of information distribution, consciousness-raising, and mobilization activities); and,
- ▲ socio-economic development dynamics, such as income levels.

3.3 Designing the Scheme

When the feasibility study shows a need and opportunity for a CBHF scheme, the next step is to design the scheme. Initiators should examine and address the following factors in the design process:

- ▲ Level of health care services to be offered;
- ▲ Potential risks to scheme operations;
- ▲ Membership classifications;
- ▲ Payment mechanisms; and,
- ▲ Operational Issues.

3.3.1 Health Care Services

When a CBHF scheme is first established, it is generally impossible for the scheme to cover all health services and be financially sustainable, unless it is heavily subsidized by the government or other sources. The choice of services depends on the following:

- ▲ The community's priority health problems and service needs, as identified by the community and scheme initiators, in collaboration with health providers;

- ▲ Availability of income; and

- ▲ Availability and accessibility of services.

As discussed in Chapter 2, there are two approaches to selecting the services that the scheme will cover:

- ▲ From available resources, set services that will be covered using the list of priority health needs (especially in low-income areas, it is necessary to first determine the amount of dues the members can support);

- ▲ Set list of priority services to be covered and calculate financial means necessary to reach those goals.

The scheme may initially select from and, as it may become feasible, gradually offer the following health care services:[23]

Basic Health Care:

▲ *Preventive and promotional care*, which includes pre- and post-natal consultations, monitoring of healthy nursing infants, vaccinations, family planning, health education, and sanitation.

▲ *Curative care*, which includes mainly consultations, nurse care, the provision of drugs, and some laboratory tests. Occasionally, minor hospitalization is added when it occurs in health centers for observation or assisted deliveries.

▲ *Chronic disease treatment*, such as for diabetes, sickle cell anemia, arterial hypertension, hemophilia, and heart disease; coverage may be extended to home care.

▲ *Children suffering from malnutrition*, including nutritional recovery using local food.

Hospital care: this care includes hospital stays, medical and technical services, and drugs.
▲ Emergency Surgery
▲ Elective Surgery

Dental care

Eyeglasses

Transportation of patients; for example, in emergency situations.

Drugs: it is important to determine the list of drugs that the scheme will reimburse (for example, expensive brandname drugs upon which patients may insist.)

For schemes starting out on a slow growth curve, the level of health services offered should be conservative and tailored to available resources and needs. For schemes with limited resources, it is better to start with a more limited package of services and gradually add to it.

3.3.2 Risks[24]

The scheme promoters should be aware of the risks inherent to any type of insurance organization and should design the benefits package in a way that will minimize the potential risks. These risks include:

[23] This is a comprehensive list of costs for obtaining health services that community members might incur.
[24] Adapted from Atim, Chris. 1998. *The Contributions of MHOs to Financing, Delivery, and Access to Health Care: Synthesis of Research in Nine West and Central African Countries.* Technical Report No. 18. Bethesda, MD: PHR Project, Abt Associates Inc.

▲ *Adverse selection:* persons with existing illnesses or a high risk of disease join an insurance scheme in large numbers and when persons in good health tend not to join.

▲ *Moral hazard*: members or their dependents tend to use the services improperly or more than usual because they want to take maximum advantage of the dues they paid.

▲ *Cost escalation*: service providers cause a sudden increase in health care costs by prescribing unneeded care without opposition from the patient and simply because he/she is insured.

▲ *Fraud and abuse*: for example, non-members pretend to be members and seek services for free.

▲ *Catastrophic and epidemic risk:* unanticipated events occur in significant magnitude and distort health utilization patterns, such as a community-wide outbreak of malaria or a cholera epidemic.

3.3.3 Membership Type

Membership can be on a family or individual basis, with five possible approaches:

1. The member (usually the household head) and dependents pay the same premium;

2. The dependents pay lower premiums than members;

3. Two premium rates are used: one for persons with dependents, another for those without dependents;

4. Premiums are exactly the same regardless of the number of dependents;

5. Variations of the above: for example, a variable rate for dependents based on the number of dependents.

3.3.4 Payment Mechanism

Payment for services can be done through the following systems:

▲ The member pays the full amount of the services, or a discounted amount, and is reimbursed;

▲ A third-party payment system: the scheme pays the service provider directly, either on a capitation (fixed amount per person, usually per year) or a fee-for-service basis;

▲ A combination of the two depending on the type of service;

▲ For each of the systems above, the scheme can also require a co-payment where the scheme pays a portion of the cost and the member also pays an amount per visit. The member co-payment may be based on either a flat amount or a percentage of the cost of the service.

3.3.5 Other Operational Issues

The following questions should also be addressed:

▲ ***How often are premiums paid?*** This depends on the availability of funds (monthly for salaried employees and during harvest for farmers).

▲ ***What is the length of waiting or probation period?*** The probation period is the time during which members pay dues but don't benefit from the services; this is done to prevent community members from joining only when health needs arise.

▲ ***Will scheme membership require a registration fee?*** If so, how will this fee be paid — by purchasing a health/family card, or other means?

▲ ***Will there be a compulsory referral system?*** Will referral be required to grant access to care at a higher-level health facility (which is usually more costly)?

▲ ***Will the scheme offer alternative benefits packages?*** If so, what will the different packages look like, and to whom will they be targeted?

3.4 Identifying Volumes and Costs

Once a draft CBHF program design plan is in place, scheme initiators should begin to assess the financial feasibility of the scheme by developing a preliminary operational budget. The first step in this process is to identify the sources of income and the expenses of the scheme. This information can be gathered by identifying the needs of the scheme (staffing, space, overhead, etc.), visiting other schemes for ideas and information, and requesting pro forma invoices from suppliers.

Potential sources of income are the following:

▲ Dues
▲ Registration fees
▲ Interest on investments
▲ Donations

Potential sources of expenditure are:

- Medical
- Drugs
- Salaries and allowances
- Rent
- Office supplies
- Utilities (electricity, water, telephone)
- Office equipment
- Office maintenance
- Insurance
- Travel and transport
- Marketing (publicity, publications, public relations)
- Bank fees
- Training
- Savings habits

Because most of the figures are estimates, it is important for the scheme initiators to include a safety margin to cover possible higher costs (typically around 10%).

If the scheme is initiated by a health facility or network of facilities, the direct expenses for provision of health services to members should be basically the same as for non-members. This would need to be increased by the amount of additional expenses that are unique to the scheme.

Chapter 4 and the toolkit provide more detailed information on how health facilities should "cost" their services. Perspectives and approaches will vary depending on whether the proposed scheme is initiated by a health facility or by community members outside of a health facility.

Box 3.3 Summary of Key Information Required for Initial Budget

- Number of probable members
- Services covered
- Expected frequency of use of services covered
- Cost of services
- Operating/administrative costs

3.5 Creating a Mission Statement and Business Plan

Many of the existing CBHF schemes in ESA trace their origins to philanthropic or donor-supported roots, whereby local community needs were being met with external resources. For example, the Chogoria Hospital Insurance Scheme in Kenya has been supported in large part by the Presbyterian Church of East Africa. The Evangelical Lutheran Church of Tanzania (ELCT) began implementation of its Managed Health Care Programme in 1997 based on experience with hospital-based community health funds. Neither of these CBHF schemes focused on cost recovery goals within the first few years, but instead relied on institutional support from the respective churches to underwrite health service staff labor and other expenses.

The 1999 PHR CBHI Lesson Learned report addresses concerns of cost recovery and financial sustainability among various ESA CBHI schemes – Chogoria, Kisiizi, and the CHF. Regarding financial performance, "the(se)… schemes have not broken even financially; however, this is not always their objective."[25] During a workshop in Kenya in June 1999, "schemes recognize(d) the need to adopt a business orientation towards the "bottom line" when administering the CBHI scheme, and to carefully set premiums and rates based on empirical insurance formulas."[26] Given the increasingly tight health budgets of governments in ESA, CBHF schemes are looking more toward the bottom line and leaning toward adopting traditional business practices designed to strengthen service delivery and operations.

Developing a mission statement and business plan forces a scheme to clarify what it hopes to achieve and how it will do so. The rest of this section discusses these documents. The detail involved in the business plan can be modified depending on the capabilities of each scheme, due to varying degrees of access to or detail of information and the means to use it.

3.5.1 The Mission Statement[27]

Every organization should have a *mission statement* that states its vision and major goals. This statement defines the existence and role of an organization.

Box 3.4 Example of a Mission Statement

Improve access to health care for the local community and provide a stable source of funding for the hospital in order to reduce the problem of bad debts.

3.5.2. The Business Plan

A ***business plan*** is a description of how the organization will carry out its mission as defined in the mission statement. It provides focus for the organization, highlights its financial feasibility and sustainability, and creates a basis for setting priorities and allocating scarce resources. The business plan should be used to present the

[25] Musau, Stephen. p. 20.
[26] Edmond, Janet, Richard Killian and Steve Musau, June 1999. *PHR Trip Report: CBHI Workshop and Kenya Activities*. Bethesda, MD: PHR Project, Abt Associates Inc., p. 4.
[27] Adapted from www.entrepreneur.com

CBHF project to community leaders, government entities (Ministry of Health or regional administration), health care providers, non-governmental and international organizations, and any other party that could assist in gaining community acceptance of the project and in obtaining any kind of financial or technical assistance. The business plan also projects an image of seriousness to all potential stakeholders.

There are seven major components in a business plan:

1. Executive summary;
2. Business description;
3. Marketing strategies;
4. Competitive analysis (to a lesser extent in the context of CBHF schemes);
5. Design and development plans;
6. Operations and management; and,
7. Financial projections.

3.5.2.1 The Executive Summary

The executive summary is a synopsis (usually no longer than one page) of the business plan. Its key elements are: the concept (describe concept of CBHF, the services, and the market it will serve); the financial features and requirements; the current position (legal form of operation, promoters); and achievements to date (state if discussions have begun with potential health or assistance providers, or if discussions were held with potential members). The summary should also clearly state the needs of the organization and its capabilities.

3.5.2.2 Business Description

The business description begins with a short description of the health sector and the context in which the CBHF scheme is being created. The section then describes the structure of the business (which includes the basic components of CBHF), reiterates the legal form, states how the services will be provided and describes the support systems. It also describes the specific services that will be provided by the scheme (description of the services that will be covered).

This section concludes with a statement regarding the difference that the scheme can make in the health status or health financing capabilities of the community and how the organization can be sustainable.

3.5.2.3 The Marketing Strategy

The *marketing strategy* presents the approach or plan to follow in providing products or services to the target population. Based on the results of the detailed market analysis and data collection efforts, the marketing strategy presents a “big picture” of how the CBHF scheme intends to register families and individuals in communities.

This section contains the following information:

▲ Projected number of potential members at the inception of the scheme and projected growth rates for three to five years;

▲ Benefits package and premium rate;

▲ Distribution of services: which entity or entities will be providing the services; and,

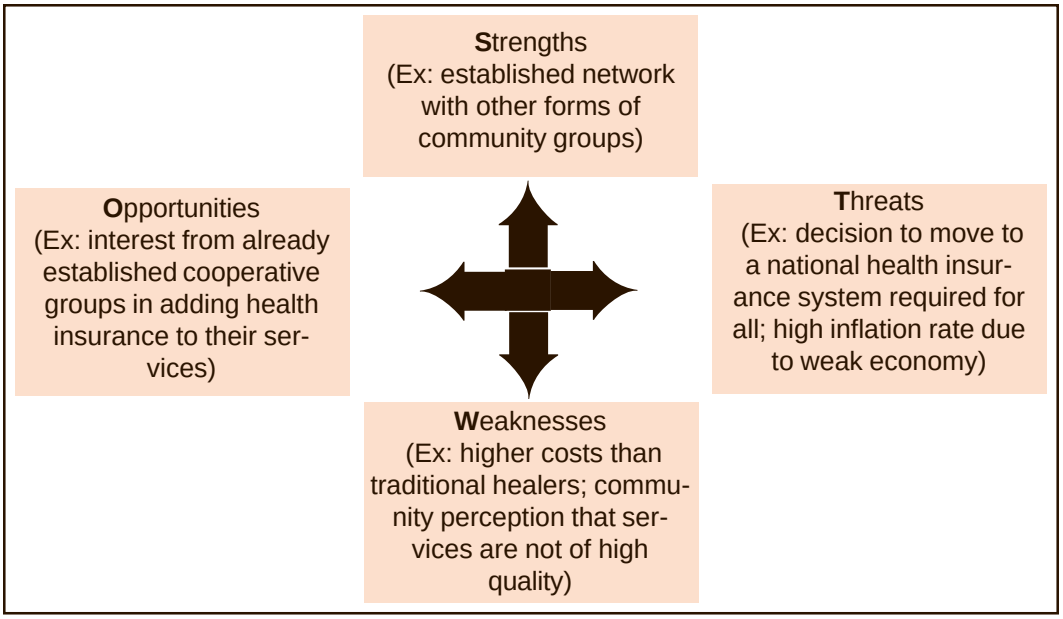
▲ Promotion plan: focuses on the communication tools that will be used to promote the project and includes advertising, public relations, sales promotions, field workers or other sales personnel, working through community groups, and other approaches.

3.5.2.4 The Competitive Analysis

In the context of a CBHF scheme, the facility or facilities developing the scheme may be the only health service providers in the area. However, other public or private clinics and traditional healers are potential competitors. At the same time, other providers may be part of the scheme's referral networks and therefore complementary. The competitive analysis also aims at making the scheme promoters more aware of their environment and possible future changes in the health sector that might affect the scheme.

A *SWOT Analysis* is generally used in conducting an analysis of competition and of the scheme's environment. This is a brainstorming exercise that identifies the "Strengths, Weaknesses, Opportunities, and Threats" the scheme should take into account in its planning. The strengths and weaknesses are usually internal but the opportunities and threats are external. Figure 3.1 depicts a SWOT analysis, and offers examples of how each component applies to a CBHF scheme.

Figure 3.1 SWOT Analysis



3.5.2.5 The Development Plan

The purpose of the design and development plan is to provide potential stakeholders with a description of the development of the services. The promoters should therefore explain the projected evolution of the services, such as potentially covering more services (if the scheme only covers inpatient services, it can plan on covering outpatient services in the future). The potential impacts on costs, relations with service providers, risks, payment mechanisms, and other factors should also be highlighted.

3.5.2.6 Operations and Management

This section is designed to describe how the business operates on a continuing basis and should contain:

- ▲ the organizational structure;
- ▲ "who does what when and how";
- ▲ the required overhead and materials including any management information systems (MIS) tools; and,
- ▲ a description of how the community will be involved in the management/ success of the scheme.

3.5.2.7 The Financial Components

The statements that should be included are a start-up budget and an income statement, balance sheet, and cash plan with projections over a three to five year period. The key components of the financial results, such as gains, should be highlighted. Finally, this section should also state the financial monitoring and evaluation tools that will be used.

4. Costing of Services and Risk Management

After completing the data collection described in Chapter 3, CBHI managers estimate the costs involved in implementing their schemes. These costing exercises are crucial to designing and implementing sustainable and effective schemes.

The objectives of this chapter are to help CBHF schemes in:

- ▲ Determine and Analyze Costs
- ▲ Designe Benefits Packages
- ▲ Calculate Premiums
- ▲ Cost the Benefits Package
- ▲ Determine Premiums
- ▲ Identify the role of CBHF in Service Delivery
- ▲ Determine risk Management Strategies
- ▲ Financial Feasibility and Sustainability
- ▲ Assess of Costs

Regardless of the CBHF model — either facility or community-based — all participants in a scheme need to understand the costing and pricing of health services, for these activities dictate in great part the success of the scheme and thus the viability of the partnership between health service providers and the communities they serve.

4.1 Determining and Analyzing Costs

4.1.1 Definition of Cost

Cost is defined as the sum of all payments or expenditures made in order to produce a good or deliver a service. There are different types of costs: direct and indirect costs; fixed, variable and semi-variable costs. There are different costs for different decisions and it is important to know what costs are relevant to any decision.

Direct and Indirect Costs

Direct costs are those directly related to an activity or service. For example, when costing a family planning session for Norplant insertion, materials or supply costs like surgical blades, needle, syringe, antiseptics, and medicine are considered direct material costs. Labor costs for the doctor or nurses directly providing a service are direct labor costs.

Direct costs of materials and supplies include all material that is directly incorporated into the product, or which directly permits the delivery of a service.

Table 4.1 Examples of Direct Costs of Materials

Product/Service	Material
Service in Outpatient Care	Tongue depressor
Setting a broken bone	Cast
Surgery	Anesthesia
Cut repair or surgery	Suture thread
Transfusion	Blood

Direct cost of personnel includes payment to personnel who participate directly in the production of a product or directly in the delivery of a service (Table 4.2).

Table 4.2 Examples of Direct Costs of Personnel

Product/Service	Personnel
Surgical procedure	Surgeon
X-ray	Radiologist
Dental prosthesis	Dental technician

Indirect costs are all the costs that are not direct. They permit the health unit to function or make it possible to deliver services even though they may not be directly associated with service delivery.

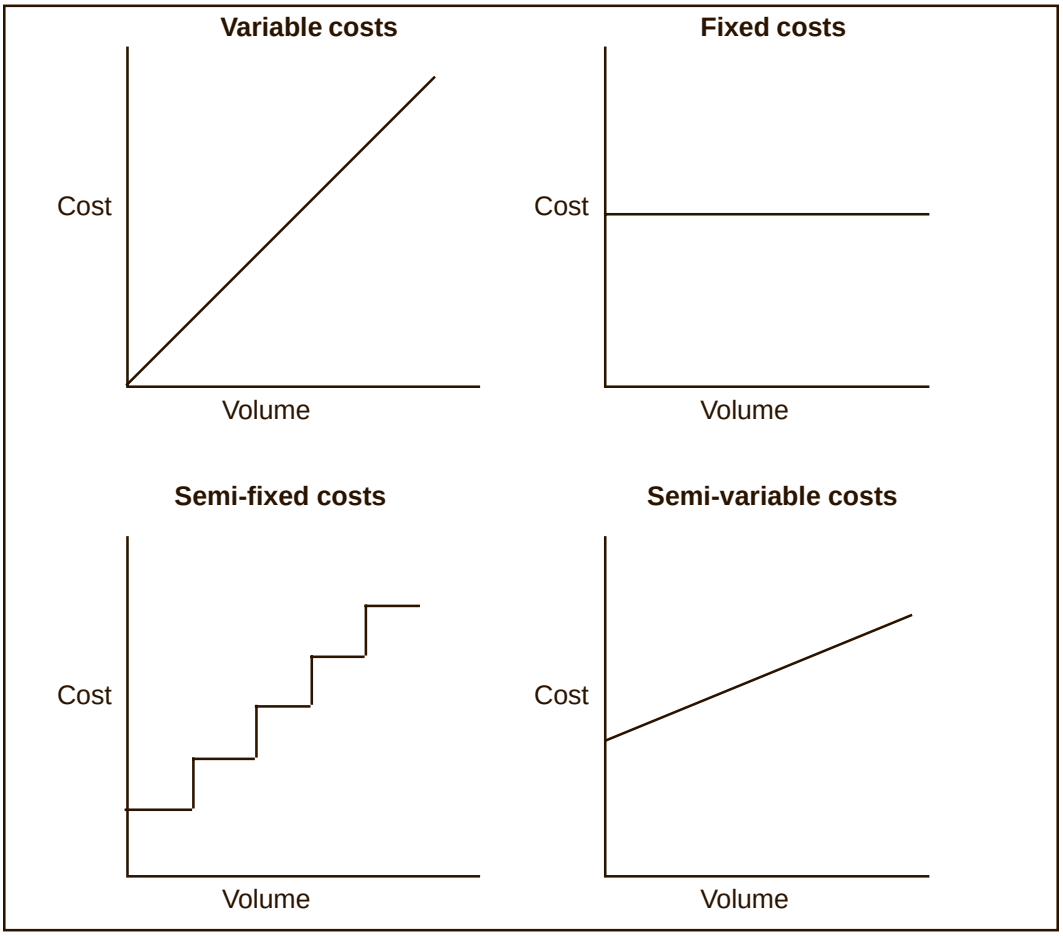
Examples:

- ▲ Health facility and maintenance
- ▲ Electricity and water consumed in a health facility
- ▲ Salaries of the managers of a health facility
- ▲ Expenditures for office supplies[28]

Fixed and Variable Costs

Costs may also be classified into four types, based on how they are affected by changes in the volume of services. These changes may be referred to as cost behavior patterns. The four types of patterns are illustrated below.

Figure 4.1 Fixed & Variable Costs



Fixed costs represent the cost of maintaining a given operational capacity, regardless of whether the services are delivered. An example would be the salary of the chief doctor at a hospital. Traditionally, his or her salary must be paid independently of how many patient services he or she provides. *Variable costs* vary in proportion to changes in the volume of activity, such as the cost of disposable surgical supplies.

[28] Redroban P., Hernan and Flores, J. Augusto. 1997. *Costs Handbook for Primary Health Care: A Focus on Management*. Quito, Ecuador: CARE/Ecuador and USAID/Ecuador, APOLO Support for Local Organizations Project. p.13.

Semi-fixed costs are fixed within ranges of activity, and resemble stairs on the chart. An example would be the need for an additional laboratory technician if the volume of services exceeds a certain level. Lastly, ***semi-variable costs*** occur when fixed amounts are needed just to maintain operational capacity, which then go up with increases in volume from the zero point. An example would be a contracted employee such as a medical specialist who costs a certain amount just to be available plus an additional amount for each unit of service provided.

These cost definitions are not absolute and cost behavior patterns may not behave in a purely linear way as shown. Nevertheless, an understanding of these costing concepts is useful in identifying the costs of delivering health services and determining the appropriate user charges, prepayment amounts, or insurance premiums to be paid for services.

4.1.2 Cost - Volume - Profit (CVP) Analysis

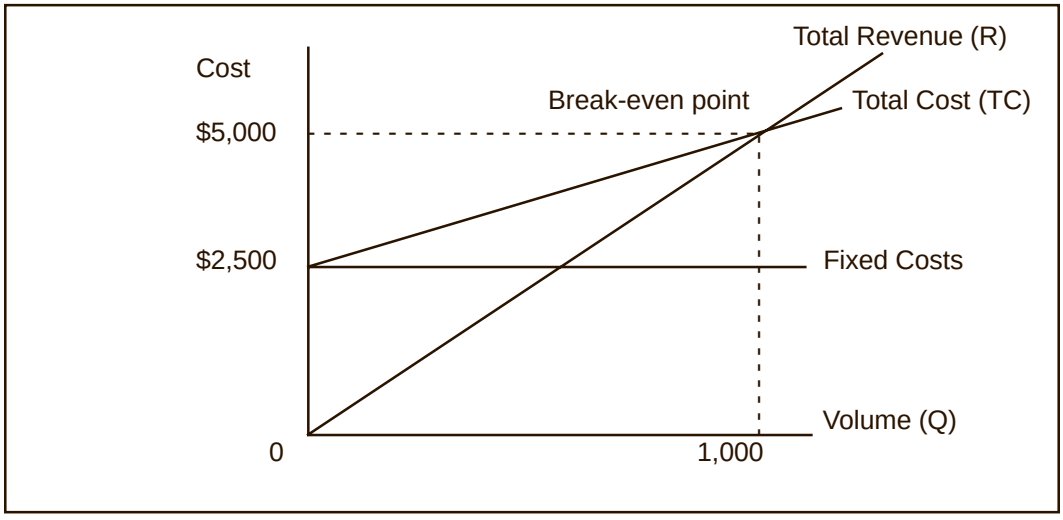
A cost-volume-profit (CVP) analysis uses fixed and variable costs to calculate the break-even point for a business. The *break-even point* is the level of output at which total revenue is equal to total cost, i.e., no profit or loss. This can be shown as a mathematical equation or as a break-even chart, for a health facility's operations or for a particular service or groups of services. The break-even chart is a function of the relation between the total of fixed and variable costs, and the revenues earned in exchange for those services or available to pay the costs of the services.

Total revenue is a result of the number of units sold (quantity) and the price at which they are sold. Total costs are the sum of the fixed costs plus variable costs; total variable costs are the variable costs per unit multiplied by the quantity.

4.1.2.1 Single Product Cost-Volume-Profit Analysis

To grasp the concept of the CVP analysis, it is easiest to do an analysis for a single product. For example, a clinic provides a package of outpatient services at a flat fee of $5. Fixed costs are $2,500. Variable costs per unit (package) are $2.5. Figure 4.2 illustrates the break-even point for this clinic in terms of the number of patients.

Figure 4.2 Break-even Chart



Total cost = Fixed costs + Variable costs

Variable costs = Volume (Q) x Cost per unit = 5 x Q = 5Q

Total cost = 2,500 + 2.5Q

Total Revenue = Volume (Q) x Price per unit = 5 x Q

Total revenue = 5Q

For break-even point, **Total cost = Total revenue, i.e., 2,500 + 2.5Q = 5Q**

If 2,500 + 2.5Q = 5Q, then,

2,500 = 5Q –2.5Q

2,500 = 2.5Q

Hence Q = 1,000

The analysis shows that the clinic must "sell" or receive revenue for 1,000 patient visits per year in order to "break even." The cost of the 1,000 units at the break-even point is $5,000, at which point total revenue is also $5,000.

Contribution

The difference between the price at which the good or service is sold and the variable costs is called the contribution. In the above example, the contribution is $5 - $2.50 = $2.50. The contribution is the amount that each unit sold "contributes" towards covering the fixed costs.

This means that the volume of sales at which total contribution covers all the fixed costs is also the break-even point. Therefore break-even volume (Q) can be found as follows:

Contribution per unit x Q = Fixed Costs

2.5Q = 2,500

Therefore Q = 1,000, same as calculated above.

Below the break-even point, Total Cost exceeds Revenue, which results in a loss or a deficit. Above the break-even point, Total Revenue exceeds Total Cost, which results in a profit or surplus.

Understanding the break-even point is critical when setting CBHF scheme premiums, a process discussed in Section 4.3. For a CBHF scheme planning how to set its premiums, a planned surplus or profit could be considered a safety factor to protect against high inflation or unexpected losses due to an epidemic or other unusually high use of services. The scheme should not aim at breaking even; it should aim at a surplus.

4.1.2.2 Multiple Product Cost-Volume-Profit Analysis

The single product CVP analysis can be expanded to accommodate multiple products. First, it is necessary to introduce another concept: the profit-volume (PV) ratio. The PV ratio measures the contribution per unit as a proportion of the selling price.

$$\text{Profit-Volume ratio} = \frac{\text{Contribution per unit}}{\text{Selling price}}$$

The PV ratio can also be called the Contribution to sales ratio.

In this multiple product CVP for example, a clinic provides family planning services. It offers three methods of contraception: oral contraceptive pills (OCP), condoms and injections. The following information on price, variable costs, volume and contribution is available. Table 4.3 provides data to compute the break-even sales given the existing mix of methods.

Table 4.3 Multiple Product CVP Analysis

	Pill	Condom	Injection	Total
	Shillings	Shillings	Shillings	Shillings
Variable costs	240	200	100	
Selling price	300	250	200	
Contribution per unit	60	50	100	
Budgeted volume	500	300	1000	1,800
Sales mix	27.7%	16.7%	55.6%	100%
Total contribution budgeted	30,000	15,000	100,000	145,000
Total sales budgeted	150,000	75,000	200,000	425,000
Fixed costs				500,000

In order to calculate the break-even sales volume, it is necessary to employ the PV ratio.

Budgeted contribution = 145,000 based on the current method mix.
Budgeted sales = 425,000

Weighted average PV ratio $= \frac{145{,}000}{425{,}000} = 0.34$,

i.e., profits increase by Sh. 0.34 for every one shilling of sales at the current method mix.

The break-even point is = Fixed costs/PV ratio

= 500,000/0.34

= 1,465,517 shillings

4.1.3 Cost Analysis of Health Facilities and Services[29]

This manual introduces costing concepts and issues without presenting any particular costing tool or methodology in detail. The toolkit that accompanies the manual presents examples of several software packages, such as the Cost and Revenue Analysis (CORE) Model developed by Management Sciences for Health (MSH),[30] and the Cost Analysis Tool (CAT) of the AVSC International, designed to aid health facility managers in costing, general accounting, and database management, along with brief analyses of the strengths and weaknesses of the different software tools for functions associated with CBHF.

Anyone who does detailed cost studies of health facilities is likely to face two problems. The first is that cost data may not be easily available for individual facilities due to multiple sources of funding and budgeting. This occurs particularly when the expenditures paid from different funding sources are not consolidated into a single income and expenditure statement. It is common for many donors to insist that their funded projects maintain separate records to show accountability for the funds they have given. Related to this, there are often various means of paying for different line items (e.g., some salaries may be paid by a combination of donor money and internal sources), which also can complicate the reconstruction of total costs or expenditures. The second problem, which is particularly important for what is known as "step-down" costing, is that cost information may be available only on a total, or aggregate, basis for the facility whereas step-down costing disaggregrates costs to costs centers. (Step-down costing is discussed in more detail in Section 4.2.2.)

When it can be done, "step-down" costing is likely to give the best cost estimates for the average cost of services in a benefits package. To obtain more detailed costs for individual services (e.g., the cost of treating a case of malaria), one needs to combine the step-down method with other methods which employ a "bottom-up" approach whereby all resources used in the production of one unit of the service are identified (e.g., staff time and cost, medical supplies, and drugs) and overheads allocated

Determining the total recurrent costs of a health facility may involve having to obtain information not available in the facility's budget or financial statements. This might include expenditures on salaries, as mentioned above, and for drugs and medical supplies or maintenance services that are provided to the facility from central medical stores or other central or regional agencies. It is also necessary to estimate non-financial costs such as depreciation (the reduction in value of goods over time due to use) and the value of donated goods and services. In addition, because most facility or ministry budgets are in line item format (e.g., salaries, drugs, supplies, utilities), line item costs must be attributed to cost centers, which are based on specific health facility departments or services.

[29] Barnum, Howard and Joseph Kutzin. 1993. *Public Hospitals in Developing Countries: Resource Use, Cost, Financing*. Baltimore, MD: The Johns Hopkins University Press. pp.135-137.
[30] Management Sciences for Health. 1998. *Cost Revenue Analysis Tool*. Boston, Massachusetts: Family Planning Management Development Program, MSH.

4.2 Designing Benefits Packages

4.2.1 Determine Levels of Health Services

Constructing a workable financial and administrative framework for CBHF operations requires the scheme to determine the basic level of health services to be provided and the anticipated volume of each service. This involves three distinct steps: determining the types of services to be offered by the providers: grouping these services into categories: and determining the volume associated with each service. Chapter 3 referred briefly to the need to conduct a demand analysis identifying volumes and costs of providing services to the current or anticipated CBHF scheme members. This chapter includes a more detailed checklist for conducting these analyses.

Step 1. Build the list of services[31]

CBHF planners should create a comprehensive list of all services currently provided or planned by the health care facility associated with the CBHF scheme. From this list, CBHF scheme planners should decide which services to offer under the scheme benefits package. The package should respond to the priority health needs of the catchment area to be served by the scheme. In addition, the benefits package should be affordable to potential members and should also be able to generate adequate revenue to be sustainable and contribute to maintaining or improving the quality of services offered by the scheme's providers.

Step 2. Categorize the services offered

If the health facility offers a variety of services, planners may find it useful to group the services into categories. If the facility has already established service categories, the same categories should be used for the CBHF design. Having categories facilitates the identification and comparison of the costs and revenues associated with each category and can be a basis for applying the costing methodologies shown in the toolkit. Three examples of categories are:

- ▲ Type of service, such as family planning, other reproductive health services, maternal and child health, and curative services.
- ▲ Mode of service delivery, such as community-based distributors, health facilities, or mobile units.
- ▲ Size, mix of services, or the level of services provided, such as outpatient facilities within a hospital, small facilities that provide only a limited number of services with limited personnel, and larger facilities that provide integrated health and family planning services.[32]

[31] Adapted from Management Sciences for Health, 1998. *CORE: A Tool for Cost and Revenue Analysis User's Guide*, Boston, Massachusetts: Management Sciences for Health.
[32] Adapted from CORE, p.14.

Examples:

Family Planning Services
IUD insertion
Oral contraceptive pills
Norplant insertions
Tubal ligation

Curative Services
Outpatient care
Inpatient care

Diagnostic Services
Laboratory tests
X-ray examinations
Ultrasound

Maternal and Child Health
Basic antenatal or postpartum visit (nurse)
Medical antenatal or postpartum visit (doctor)
Children's immunizations

Step 3. Determine the projected volume of each service

CBHF planners should estimate the projected volume of each service listed in Step 1. Estimates should be based on past or current volume and/or on an estimate of maximum demand. The volume of services should be for a specific time period, usually a year.

Information on the past or current volume of services should be collected from the health information system of the facility (or facilities) with which the CBHF scheme is associated. Possible data sources include:

- ▲ Computerized service data;
- ▲ Periodic service updates;
- ▲ Revenue records (if service volume and revenue have been recorded at the same time);
- ▲ Client registers or logbooks; and, Periodic reports to government, funding sources, or organizational headquarters.

4.2.2 Cost Centers and Step-down Costing

"Step-down" costing is a method for allocating all the facility's costs to direct (also called final) costs centers that are involved in service delivery to patients and have the potential to recover the facility costs through user fees, prepayment or other mechanisms. Three categories of cost centers are typically used:

- ▲ *Overhead*. These cost centers produce only services that are consumed by other departments (cost centers), not by patients. Examples include Administration, Housekeeping, Maintenance, and Utilities.

▲ *Intermediate*. These cost centers produce services that are used by other departments, but also provide services directly to patients. Examples include Laboratory, X-ray, Operating Theater, and Physiotherapy.
▲ *Final*. These cost centers provide services directly to patients, not to other departments. Examples are wards and outpatient areas, which may also be further separated into specific departments such as Medicine, Surgery, Obstetrics-Gynecology, and Pediatrics.

Box 4.1 Step-down Costing

1 – Once identified, all direct costs of the health facility are assigned to one of the three types of cost centers (overhead, intermediate and final).

2 – The step-down method is then used to apply all costs to final cost centers. The basis for allocating specific portions of each cost center's costs to other departments should be the consumption of the source department resources by the receiving department. As an example, the distribution of kitchen costs [source] among inpatient [receiving] departments would typically be based on the proportion of total patient days in each inpatient department. In this step, the overhead costs are allocated to intermediate and final cost centers using the allocational proportions selected. For example, one could use the proportions of each cost center's direct costs (from Step 1 above) as the basis for allocating overhead costs.

3 – Then, the total costs of the intermediate departments, which now include the allocated ("indirect") costs in step 2 above, are allocated among the final cost centers using the selected proportions.

4 – After all costs are fully allocated to each of the final cost centers, average costs can be calculated by comparing fully allocated costs to the relevant service volumes. For example, if the only final cost centers are simply inpatient and outpatient, statistics on total patient days and discharges can be compared with fully allocated inpatient costs to generate measures of the average cost per day and per discharge. In a similar manner, the average outpatient cost per visit can be calculated. Average costs of intermediate services can also be calculated if service statistics are available.

In some health facilities, there may be neither adequate data nor human resources to carry out a full step-down cost analysis. In those instances, the facility or CBHF scheme managers will have to adapt costing methodologies to the level of information and human resources available. Limited technical assistance and/or other support for these key feasibility and periodic analyses may be available to facilities or schemes from public or private partners.

An example of a step-down costing exercise is included in Annex B, Step-down Costing Exercise.

Practice Example

A partial cost analysis has been done for ABC Hospital and all direct costs have been charged to the four cost centers, namely outpatient, wards, laboratory and administration. The costs (in Kenyan Shillings, or Ksh) are as follows:

Outpatient	10,000,000
Inpatient	35,000,000
Theater	3,000,000
Laboratory	2,000,000
Administration	12,000,000

In real life, these costs would probably be presented in a trial balance, which is a listing of the balances all the different accounts in the financial accounting system. You would then have to decide which costs are direct and which costs are indirect. You are told that the total output of the laboratory was 4,000 tests, of which 50 percent was for outpatients, 40 percent for inpatients and 10 percent for theater. The operating theater is used, on average, 80 percent for inpatient (major) surgery; 20 percent is for outpatient cases. The hospital, further, had 50,000 outpatient visits and 20,000 inpatient bed days. You are required to allocate the administration and laboratory costs and calculate the average cost per inpatient day and per outpatient visit.

Table 4.4 Example: Costing of Services

	Admin. (overhead)	Laboratory (intermediate)	Theater (intermediate)	Outpatient (final)	Wards (final)	Total
Direct costs	12,000,000	2,000,000	3,000,000	10,000,000	35,000,000	62,000,000
Step 1.: Allocate the costs of the overhead department that serves the most number of other departments.		480,000	720,000	2,400,000	8,400,000	Total costs allocated = 12,000,000
Step 2. Allocate the intermediate cost centers' costs to the final users of services. Start with the one that serves most centers.			(10% of lab) 248,000	(50% of lab) 1,240,000	(40% of lab) 992,000	Allocated the Lab. costs = 2,000,000+ 480,000
Step 3. Allocate the next intermediate cost center – theater on basis of usage				(20% of operations) 793,60	(80% of operations) 3,174,400	Allocated theater costs= 3,000,000+ 720,000+ 248,000
TOTAL COST				**14,433,600**	**47,566,400**	**62,000,000**
No. of services				50,000	20,000	
Unit costs (rounded)				289	2,378	

Note: Allocation of administration overhead costs has been done on the basis of the proportions of direct costs.

4.2.3 Operating at Capacity[33]

Theoretical capacity refers to the maximum total output that could be obtained from a resource. For example, a hospital may have 40 beds or 12 examination rooms; a piece of equipment may be able to complete six procedures per hour; a physician or dentist may be able to treat 32 patients in an eight hour period. Such maximum output is rare to find due to the less-than-ideal conditions in which resources must function and the interrelations between resources for delivery of services.

When the effects of delays, interruptions, and other constraints are applied to the theoretical capacity, one arrives at the *normal practical capacity*. To use the preceeding example a hospital might have a 40 bed capacity, but if only 25 of the beds are equipped to deliver services, the practical capacity is 25 beds. If the hospital lacks adequate staff or supplies to operate the 25 beds, that would be a further limiting factor. This unused capacity is referred to as *idle capacity*. Where several resources are involved in delivery of a service, which is typical, service capacity is determined by identifying the resource with the least capacity or that operates least efficiently. That resource could be considered a bottleneck limiting the productive capacity of the other resources.

The building, equipment, staff, and other resources of a health facility or program operate together to produce health services of a given capacity. The fact that a health facility is open to serve the public indicates that it has already made a significant investment in the resources needed to provide services – that is, it has incurred a certain level of fixed costs.

If demand for services is sufficient, the health facility should be able to meet its economic objective of recovering its costs and generating an additional margin, or profit. The margin or profit may be used to fund replacement or repair of equipment, or for other measures that help to improve the quality of services. If the facility is unable to recover costs through fees to patients, government subsidies or other revenues, the institution will have to absorb all of the costs. This is likely to result in financial losses and diminishing quality of services, and eventually closure.

The availability of high quality, sustainable health services is a basic element of a CBHF scheme, whether the scheme is initiated by a health facility or an outside group. Therefore, it is in everyone's interest (scheme owners, members and service providers) to ensure the efficient and cost-effective delivery of services. For this reason, it is important to generate sufficient demand for services (e.g., through CBHF membership) to reduce idle capacity. Generating initial demand and maintaining/expanding membership requires a conscious strategy and capacity in public relations and marketing (see subsequent chapters for more information on these subjects). Put simply, community members will not join a CBHF scheme or continue to participate if they are unaware of the scheme or its services, or if they have a negative impression due to poor service quality or other factors.

[33] Redroban, Hernan and J. Augusto Flores. p.33-34.

4.2.4 Estimating Maximum Demand

Maximum demand means the total need for each service among the population in the facility's catchment area. Demographic and census information on the catchment area and existing knowledge about other service providers (current and prospective) can assist planners in identifying the largest potential numbers of clients who might want to use each service. Other possible sources of information include focus groups, outreach activities, and rapid assessment surveys.

After examining service records from the past periods and estimating the maximum demand for each service, planners should determine a projected volume for each service during the specified time period.

Evidence from schemes in ESA suggests that the demand for services in a new scheme peaks in the first six months. During this time, members seek health care for health problems that they have been content to live with in the past, when they had to pay for each service received; this is particularly true of cases where there is no exclusion for pre-existing conditions. Frivolous use during this time cannot be ruled out also. At the inception of a scheme, government and donor support is critical to tide the scheme over this period of over-use. Table 4.5 illustrates project volumes of services.

Table 4.5 Example: Projected Volumes of Services

Category or Type of Service	Volume Previous Period*	Maximum Demand Projections**	Projected Volume This Period
Family Planning			
Pills, first visit	3,200	6,000	3,600
MCH /Obstetric			
Delivery (normal)	325	3,000	360
Curative Services			
Medical visit - Malaria	7,800	25,000 ***	8,000

Notes:
* Previous volume of services should be taken from the facility's information system, if available.
** Maximum demand should be taken from demographic and/or census data, what is known about service providers, and/or information from feasibility or demand studies, focus groups, rapid assessment surveys, or outreach activities.
*** The family planning and MCH services are used by a subset of the population – women of reproductive age. Therefore the maximum demand projections for these services are smaller than the projections for malaria treatment services, which apply to the broader population.

4.3 How to Calculate Premiums

The 1999 PHR CBHI Lessons Learned report states that "it is important to set realistic premiums at the beginning of the scheme and to periodically review and adjust them." Also, "underwriting of the initial losses by the government, (international donors or other partners) can help the scheme set low rates at the beginning, but may also give a false sense of affordability to the potential clients.[34] As one would surmise, "the fuller the range and depth of insured services, the higher the required premium."[35]

This section presents several ways to calculate premiums based upon the costs of the services that are being considered for inclusion in the benefits package.

Once the initial analysis is done and priorities are identified, a listing of the proposed benefits can be established.

Example 1. Estimating Premium Rates for a CBHF Scheme and Community[36]

This method of estimating premium rates requires approximate figures for annual number of hospital admissions, deliveries, and outpatient visits per 100 members. These data are obtained from the calculations of maximum demand explained above. The numbers are multiplied by the prices agreed on with the providers, then divided by the number of members. This simple example assumes the provider has already established prices for individual services. It also illustrates how monitoring utilization rates can help CBHF management keep track of the CBHF scheme's financial status and any need for contribution rate adjustments.

Example:

Data:

Annual hospital days/100 members:	60
Annual deliveries/100 members:	4.3
Annual outpatient visits/100 members:	350

Agreed or proposed prices:

Hospital day:	Ksh 2,500
Delivery:	Ksh 3,000
Outpatient Visit:	Ksh 400

CBHF Scheme's Non-medical Costs:

Annual administration, transport, and miscellaneous costs:	Ksh 4,862,400
Annual training costs:	Ksh 1,000,000

Membership:

Number of members:	2,347
Average dues collection rate:	90 percent

Contribution Schedule: Every 4 months

[34] Musau. p. xii.
[35] Shaw and Ainsworth. p.199.
[36] Adapted from Atim, Chris. July 1998. *The Contribution of Mutual Health Organizations to Financing, Delivery, and Access to Health Care: Synthesis of Research in Nine West and Central African Countries*, Bethesda, MD: PHR Project, Abt Associates Inc., Annex 4.

Calculations

Expected annual costs for 2,347 people

Hospitalizations:	60 x 2,500 x 2,347/100	=	Ksh 3,520,500
Deliveries:	4.3 x 3,000 x 2,347/100	=	Ksh 302,763
Outpatient visits:	350 x 400 x 2,347/100	=	Ksh 3,285,800
Training:		=	Ksh 1,000,000
Administration, Transport and Miscellaneous:		=	Ksh 4,862,400
Reserve Fund (20 percent of total costs)		=	Ksh 2,594,293
TOTAL		=	Ksh 15,565,756

Scenario 1

Where those who have not paid their dues are immediately excluded from using the services:

Annual contribution = 15,565,756 / 2,347 = 6,632 (rounded)

Contribution required per member every four months: (15,565,756 / 2,347) 3 = KSH 2,210

Scenario 2:

Where no strict policy of immediately excluding non-compliant members is in force, it is necessary to mark up the contribution required to cover for those who will not pay their dues on time:

Given that dues recovery rate is 90 percent, the contribution every four months per member, for sustainability, is: 2,210 / 0.9 = KSH 2,455.

The above calculations can be presented in tabular form.

Table 4.6 Estimating Premium Rates for a CBHI Scheme and Community

Service	Total scheme membership	Utilization per member	Number of services used	Cost per unit of service	Total cost	Cost per member per year
Outpatient visits	2,347	3.5	8,214.50	400	3,285,800	1,400
Inpatient days	2,347	0.6	1,408.20	2,500	3,520,500	1,500
Deliveries	2,347	0.043[37]	100.92	3,000	302,763	129
Total benefits costs					***7,109,063***	***3,029***
Administration costs					4,862,400	2,072
Training costs					1,000,000	426
Reserves					2,594,293	1,105
Total cost					**15,565,756**	**6,632**
TOTAL PREMIUM per member per year = total cost / no. members (15,565,756/2347)					**6,632**	
Where no strict policy of immediately excluding non-compliant members is in force it is necessary to mark up the contribution required to cover for those who will not pay their dues on time: Required contribution = 6,632/0.9=7,369						

Note: * Fixed costs in this example equal 8,456,693. (This represents the total amounts for administration, training, and reserves.)

* Annual deliveries per 100 members is 4.3.

* Reserves represent an estimate to cover contingencies.

[37] Annual deliveries per 100 members is 4.3

4.4 Costing the Benefits Package

Using the example of the proposed benefits given in Section 4.1, this section shows how costs for these services are calculated, then combined to arrive at an overall cost for the benefits package. This is a more detailed approach than the one shown in the earlier example and it requires certain statistical data. The ideal would be to possess statistics by age (or age group) and by sex. This will help to isolate the variations in frequency of usage and costs of services for different categories of members – adults vs. children; male vs. female.

The following examples calculate the costs of pharmaceuticals, doctor consultations, and hospitalization. Other benefits in the benefits package can be costed in a similar manner.

4.4.1 Cost of Pharmaceuticals

The data in this example are tabulated by age groups. Such a detailed breakdown of data may not be available; if not, "total" scheme is used. However; where the age group data for scheme management require specific calculations, the following format may be adopted.

Table 4.7 Pharmaceutical Costs, by Age Group

		Age Groups						
		<1 Year	1-5	6-14	15-29	30-50	>50	Total
No. of members	A							
No. of members having filled at least one prescription	B							
Total number of prescriptions filled	C							
No. of prescriptions per member per year	D							
Total cost of prescriptions	E							
Average cost per prescription	F							
Cost of drugs per member	G							

A. This is the total number of members of the scheme.

B. This is the total number of members who received a prescription; i.e., they were treated at the health facility and drugs were prescribed.

C. This is the total number of prescriptions that were filled for all the members in (B) who received a prescription.

D. This is the number of prescriptions divided by the total number of members, i.e., (C)/(A). It is the average that each member is expected to receive in a year.

This is a very important figure because it is the estimate of the consumption of this particular health service by members in a year.

E. The cost of all prescriptions filled in for box (C).

F. Average cost = Total cost (E) / No. of Prescriptions (C)

G. This is the average cost of drugs per member per year – i.e. the cost per prescription x the number of prescriptions per member: (F) x (D)

Exercise

In 1999, the Kamau CBHF scheme had 3,000 members, of which 300 individuals used 600 filled prescriptions for pharmaceuticals, for a total cost of 3,000,000 Kenyan Shillings (Ksh).

Using Table 4.7, calculate the average cost of pharmaceuticals per member. The answer is given in Table 4.8 below.

Table 4.8 Calculation of Pharmaceutical Costs

Age		Calculations	Total
No. of members	A		3,000
No. of members having filled at least one prescription	B		300
Total number of pre-scriptions filled	C		600
No. of prescriptions per member per year	D	600 prescriptions divide by 3,000 members	0.2
Total cost of prescriptions	E		3,000,000
Average cost per prescription	F	Total cost, 3,000,000 divide by 600	5,000
Cost of drugs per member	**G**	**Average cost per prescription multiplied by number of prescriptions per member**	**1,000**

The average cost of drugs per member can be used to estimate total consumption of drugs if the assumption regarding the number of prescriptions per member is changed. For example, if the changing health needs in the scheme's catchment leads to higher number of members attending the hospital for care, one can assume a higher number of prescriptions per member per year of say, 0.4. In such as case, 1,200 prescriptions would be issued (1,200/3,000 = 0.4). The total cost of drugs used by members would then be 3,000 x 0.4 x 5,000 = 6,000,000.

4.4.2 Consultations (General Practitioner/Specialist)

The calculations for the costs of consultations follow a similar format as for the costs of drugs.

Table 4.9 Consultation Costs Per Member

Age		<1 Year	1-5	6-14	15-29	30-50	>50	Total
No. of members	A							
No. of members having attended at least one consultation	B							
Total number of consultations	C							
No. of consultations per member per year	D							
Total cost of consultations	E							
Average cost per consultation	F							
Consulation cost per member	G							

4.4.3 Hospitalization Costs

Using the same procedure as above, do the following exercise to calculate the hospitalization costs per member.

Exercise

The Kamau CBHF scheme has 3,000 total members of which 100 were hospitalized for a total of 40 hospital days and a total cost of Ksh 6,000,000. Use the table below to calculate the average cost of hospitalization per member per year.

Table 4.10 Hospitalization Costs

Age		<1 Year	1-5	6-14	15-29	30-50	>50	Total
No. of members	A							
No. of members hospitalized	B							
Total number of hospital days for members	C							
No. of hospital days per member per year	D							
Total cost of hospitalization	E							
Average cost per hospital per year	F							
Hospitalization cost per member	G							

The answer can also be computed arithmetically as:

Average cost per hospital day multiplied by the number of hospital days per member per year:
(6,000,000/40) x (40/3,000) = 2,000

4.4.4 Costs for Additional Services

Utilization of other services would be costed in the same manner as above. Only the services whose consumption has a significant impact on the overall premium need to be included.

4.4.5 Overall Cost of Benefits Package

The overall cost of benefits is obtained by multiplying the average costs of each benefit by the number of members.

Example

The Kamau CBHF scheme has 3,000 members and covers:

- ▲ pharmaceuticals (average cost = 1,000)
- ▲ consultations (average cost = 1,600)
- ▲ hospitalization fees (average cost = 2,000)

Total costs per service are presented in Table 4.11.

Table 4.11 Costs per Service, Kamau Scheme, Kenya (in KSH)

Benefit	Cost per member per year	No. of members	Total cost
Drugs	1,000	3,000	3,000,000
Consultations	1,600	3,000	4,800,000
Hospitalization	2,000	3,000	6,000,000
Total cost of benefits	**4,600**		**13,800,000**

4.4.6 Operating Costs

Operating costs are the costs of managing the scheme. They include all administrative costs plus reserves.

Assume that the operating costs of the Kamau scheme amount to Ksh 2,000,000.

For caution, the Kamau scheme decided to constitute a safety margin equal to 20 percent of total costs of benefits and operating costs. The safety margin can protect the schemes against losses from unexpected expenses, such as an epidemic, rapid inflation, or negative changes in the exchange rate. It may also be calculated to include a surplus for investment in the scheme.

Therefore the reserves for the Kamau scheme are:

(13,800,000 + 2,000,000) x 20 percent = Ksh 3,160,000

Table 4.12 Total Cost

Cost Item	Total Cost	Cost per member
Benefits	13,800,000	4,600.00
Operating costs	2,000,000	666.7
Reserves (safety margin)	3,160,000	1053.3
Total	18,960,000	6,320.0

4.5 Determining Premiums

4.5.1 Total Dues

Total dues should cover the following costs: total cost of benefits, safety margin, operating costs. The total for the Kamau scheme is Ksh 18,960,000.

4.5.2 Premiums

Annual premium = Total dues / number of members
= 18,960,000 / 3,000
= 6,320

Monthly premium = Annual premium / 12
= 527

This accuracy of the premium is only as good as the assumptions that underlie its calculation. For example, underestimating the number of times each member is likely to seek health services in a year could lead to too low a premium being set.

Exercise

What if the assumption regarding hospitalizations was 25 percent too low, and the correct number of hospital days for members was 50 instead of 40? What impact would this have on calculations of the premium? Assuming that all other assumptions were correct,

Total hospitalization benefit costs would increase by 25 percent, to 7,500,000, i.e. (6,000,000 x 25% = 1,500,000) + 6,000,000 = 7,500,000.

Total costs would therefore increase by 1,500,000, to 2,046,000, an 8 percent increase. This increase in costs could be comfortably accommodated in the reserves that were included in the computation of the premium.

4.6 Role of CBHF in Service Delivery

CBHF schemes seek to increase access to and quality of health care for rural communities. CBHF emphasizes active community membership, strong local leaders and managers, and trained health facility staff providing quality services. If these three components work together effectively, there is great potential to improve the quality of health care services and meet existing needs for services. There is some evidence that "revenues from community financing schemes, such as those applied under the rubric of the Bamako Initiative, have led to improvements in the quantity and perceived quality of available services. An evaluation of the Bamako Initiative found that in some countries, the revenues generated through drug fees were used to attain tangible improvements in health services." [38]

The role of primary health care staff in ensuring success of CBHF is critical. The synthesis of experiences with mutual health organizations in West and Central Africa observes that "providers can facilitate the development of community financing organizations. Provider staff may, in some cases, need some basic orientation or sensitization on relations with [schemes].[39] Provider attitudes may in large part be influenced by the disposition of the health facility's management to the CBHF scheme. An analysis completed by Management Sciences for Health (MSH) at Chogoria Hospital in Kenya suggests that "rural primary health care staff respond to financial incentives [such as those that are introduced through CBHI] by generating revenues, controlling costs, improving community services, and possibly reducing corruption."[40]

It is desirable to involve a diverse, broad-based range of players in the design and operation of community financing schemes like CBHF. Scheme success can depend in

[38] Creese and Kutzin. 1995. *Lessons from Cost-Recovery in Health, Discussion Paper No.2 Forum on Health Sector Reform,* Geneva, Switzerland: World Health Organization, p.14.
[39] Atim, Chris. 1998. MHO Synthesis. p.53.
[40] Eichler, Rena. September 1999. Presentation notes based on report entitled, *Performance Based Reimbursement of Rural Primary Health Care Providers: Evidence from Kenya, Health Reform and Financing Program*, Boston, Massachusetts: Management Sciences for Health.

large part upon the overall health and vitality of the economic and development situation in the community, district, region and country. “By being linked to broad development activities, the health insurance component of a scheme may be more likely to achieve its aims. For instance, development activities often help to raise the income level of local households, thereby increasing the amount of cash available to pay premiums.[41]

4.7 Risk Management Strategies[42]

“Failure in risk management is one of the greatest threats to the viability of the CBHI schemes.” [43]

If CBHF schemes are to succeed financially, one of the most important skills that the management or leadership should master is how to assess the risks to which the scheme is exposed, particularly when it is based on an insurance mechanism. Then appropriate measures can be put in place in order to minimize the threat posed by those risks. The risks involved are principally those of moral hazard, adverse selection, cost escalation and fraud/abuse. Box 4.2 defines each risk, and following sub-sections discuss how to manage the risks.

[41] Bennett, Sara, Creese, Andrew, and Monasch, Roeland. p.20.
[42] Atim, Chris. MHO synthesis. p.23.
[43] Musau, p.xii.

Box 4.2 Definitions of Risk

1. Moral hazard: The tendency of the insured person to use the services more intensively than if they were not insured. Such (often unnecessary) use results in over-consumption and imperils the financial viability of the insurance system. This is different from fraudulent use of the services (see below) because it relates mainly to the fact that the price of using the service to the insured person is often much lower (more so where there are no co-payments or deductibles – see Box 4.3) than the actual price of the service. For example, a person would ordinarily overlook a minor health condition if he were paying the full price, while if he were covered by the scheme, he would seek medical attention.

2. Adverse selection: The tendency of those who are at greater risk of falling ill (high risks), or who are already ill, to subscribe to the insurance scheme in greater numbers than those who are less at risk (low risks). This also imperils viability because the premiums are calculated on the basis of the average risk of illness of the whole community or target group. If the actual subscribers are people who use the services more intensively than the average predicted, then the scheme is likely to become insolvent.

3. Cost escalation: The danger that an insurance scheme will face rapidly rising costs due to a variety of reasons related to the behavior of providers and patients once such a scheme is implemented. Providers, with the collusion of insured patients, may have incentives to use costly treatment techniques, or provide excess services in the knowledge that the scheme will pay the bill. Patients, as shown in points 1 and 4 here, might tend to behave in ways that drive up the costs of the scheme. At the beginning of the scheme, there may be an initial cost escalation due to members presenting at the health facility for treatment of residual ailments which they would not have had treated if they were not insured. This may happen in the first six months or so.

4. Fraud and abuse: An insurance system is open to the dangers of "free-riding," i.e., to individuals who want to enjoy the benefits of the scheme without bearing the price involved; e.g., some individuals not entitled to services may usurp the identity of those entitled in order to receive the benefits without paying for them. If there is no effective system of checking identities, it is difficult to know whether people demanding the benefits are entitled to them or not. Insurance is particularly open to such risks because in its operation, there is often a perception that somebody else is paying for the services, not the direct user of those services, which arguably gives incentives for abuse.

5. Risk management: Tools or techniques which can be deployed by the scheme managers to minimize the impact of the above risks. The two crucial steps involved are the identification and quantification of the risks. Identification depends to a large extent on available data (which could be gathered from existing sources such as providers or from research). Quantification depends either on the use of the tools of actuarial science or sound judgement or a combination of both. A CBHI scheme's level of risk is greatly affected by the benefits package it offers and its terms of membership.

4.7.1 How to Manage Moral Hazard

The precise tools that can be employed by the scheme's management will depend in part on the character (type) of scheme and the efficacy of the tools that are available to it. For example, to combat moral hazard (as well as fraud or abuse), a traditional, ethnic- or tribal-based type of scheme may be able to rely quite effectively on social control, which tends to be strong in such groups – and the smaller the group size, the easier and more effective it will be to rely on this tool. For larger, and more heterogeneous schemes, for example the community financing types with low participation, this kind of tool is unlikely to be available and so other measures must be taken.

Mandatory reference from a lower-level facility (for schemes that offer secondary-or higher-level care benefits), co-payments, and deductibles (see Text Box 4.3) are among the most frequently utilized measures to check or limit moral hazard in insurance-based schemes. Used wisely, they have the potential to contribute to making the individual behave with a sense of responsibility, enhance efficiency, and limit the scheme's exposure to moral hazard.

Box 4.3 Risk Management Tools*

1. Mandatory reference: Schemes that offer benefits for secondary or higher levels of health care usually require members to be referred by an approved agent (usually a lower-level medical officer) to the hospital or higher-level facility, in order to qualify for benefits under the scheme. This measure helps to prevent inappropriate resort to a higher-level facility, which some individuals will do to take advantage of the scheme benefits.

2. Co-payments: CBHF scheme members pay a small portion of their health care charges out-of-pocket when they go to a health facility, with the other share being paid by the insurance scheme.

3. Deductibles: An insured CBHF member is asked to pay up to a fixed amount of their health care bill; the insurance scheme or the scheme pays the rest of the bill. To illustrate, a scheme may ask its members to pay up to the first Ksh 1000 of any health care bill; if the total bill is Ksh 10,000, then the scheme pays Ksh 9,000. If the bill is Ksh 950, the scheme pays nothing. Deductibles may be applied on a per visit or annual basis.

4. Ceilings on benefit cover: Schemes may also impose a ceiling on the total amount of health care bills or benefits per person that they pay per visit and/or per year. This tool is usually deployed to check cost escalation and to ensure the financial viability of the scheme.

** Insurance schemes often use tools 1 through 3 to limit moral hazard (overuse); however, many schemes may be more likely to use tools 2 and 3 to limit their financial commitment (and hence to enhance their viability) as evidenced by the frequently high levels of co-payments and deductibles, which are arguably higher than what might be considered necessary to minimize those risks.*

4.7.2 How to Manage Adverse Selection

Adverse selection is more difficult to counter in any voluntary insurance system, but some schemes, especially those based on professions, enterprises, and trade unions, may require all members to join the scheme, thereby eliminating the problem altogether. Where compulsory membership is not applied, other measures may be used, such as requiring a waiting period during which contributions are paid but without entitlement to benefits, and insisting that the entire family should register once one member joins.

4.7.3 How to Manage Cost Escalation

Cost escalation in CBHF schemes arises from two directions: the behavior of scheme members or patients on the one hand, and provider behavior on the other. The risk of moral hazard discussed above is one example of patient behavior that can lead to cost escalation for a CBHF scheme. Another example of behavior of scheme members that will have the same effect is fraud or abuse of the identity of the beneficiary. The use of a member's identity document by persons not entitled to the benefits poses a real danger where the controls are not effective enough to prevent or minimize this.

Cost escalation can also be the result of providers giving unnecessary treatment or unnecessarily expensive treatment to members simply because they have insurance cover.

Many schemes also experience cost escalation during the first few months of operation as the members seek health care for conditions that would have been ignored had they not been insured. The level of utilization tends to peak after about six months.

4.8 Financial Feasibility and Sustainability

"'…once fees are implemented, they are likely to require revision.' … Several studies have concluded that periodic adjustment of fee levels to keep pace with inflation rates should be built into user charge systems."[44]

Financial feasibility is the "estimation of the projected future stream of revenues and expenses associated with a given project and analysis of its profitability over time."[45]

Financial feasibility relates directly to the discussion of break-even analysis given in Section 4.2.2. To be feasible or sustainable, a health facility or CBHF scheme should be able to generate revenues equal to costs plus a safety margin. If projections do not show this would occur for a given benefits package, then the scheme organizers should increase prices or premiums for services and/or reduce the benefits package to fit with what people can afford to pay. "Profitability" in this definition refers not to individuals benefiting financially from the scheme's operations but rather to the scheme's overall ability to meet its obligations with some surplus or margin to spare.

[44] Creese and Kutzin.
[45] Wouters, Annemarie and Else, Brad. November 30, 1995. *Financial Management Control; A One Week Workshop; Training Materials*, Bethesda, MD: Zdrav Reform Project, Abt Associates, Inc., p.10.

To use the example given in Table 4.6, the following information is relevant to the performance of break-even analysis:

▲ Variable cost per member (benefit costs) per year	Ksh	3,029
▲ Fixed costs of the scheme per year	Ksh	8,456,693
(Refer to table 4.6)		
▲ Annual premium	Ksh	6,632

Determine what the break-even membership level is:

At break-even, total revenue = total cost

Total cost = Fixed cost + variable costs = Total revenue

Total cost = 8,456,692 + (3,029 x Q) = (6,632 x Q)

8,456,693 + 3,029Q = 6,632Q
8,456,693 = (6,632Q – 3,029Q)
8,456,693 = 3,603Q

Q = 2,347 members

At the membership level of 2,347 subscribers, the scheme will raise Ksh 15,565,304 (2,347 x 6,632), which will be just enough to cover the projected costs. Membership would have to increase to more than 2,347 if the scheme is to make a profit.

At a membership of 3,000, the financial state of the scheme would be as follows, assuming that the level of reserves is held constant at Ksh 2,594,293.

Revenue (3,000 x 6,632)	Ksh	19,896,000
Costs		
Benefits (3,000 x 3,029)		9,087,000
Administration		4,862,400
Training		1,000,000
Reserves		2,594,293
		17,543,693
Surplus	Ksh	2,352,307

Exercise

Perform the same calculation with a membership of 2,000.

4.9 Assessment of Costs

This chapter has discussed the processes for CHBF schemes to classify, analyze, and derive costs for services, premiums, and benefits packages. It is important for scheme managers to pay attention to costs and the appropriateness and feasibility of costs within the larger scheme context. Throughout the implementation of the scheme, managers should evaluate and update costs in light of the local economic situation. Scheme decision makers should be informed of all costing aspects of operations, financial management, and human resources, in order to manage the scheme in an efficient and sustainable manner.

"One method for periodically updating fee levels in community facilities may be a relatively simple and replicable approach. Updating fee levels can be achieved by tying these prices to the value of a fixed quantity of a local staple food. This could then be used as an index value relative to which prices for various services could be set. Such an approach has been used successfully in Zaire's Bwamanda health zone to adjust the premium contribution for a rural health insurance scheme."[46]

[46] Creese and Kutzin. p.23

5. Operational and Management Systems

The management of an organization involves mobilizing and using as efficiently as possible all available resources to carry out activities that help the organization achieve its goals. Through improved resource planning and management, organizations involved in the delivery of health care can be more efficient and effective in the fulfillment of their mission.

The purpose of this chapter is to provide managers of community-based health financing schemes with skills that will enhance their ability to deliver services more efficiently and effectively, through better resource planning and control and improved feedback. The three main aspects any organization has to manage are:

- Operations
- Financial Resources
- Human Resources

In this chapter you will learn:

- How to manage scheme membership data
- How to manage the financial and other resources of the scheme
- How to interpret basic financial statements
- Basic elements of human resource management

5.1 Operations

Management is the process of creating an environment in which resources can be used to their best advantage for the achievement of goals. The management process revolves around decisionmaking. The sustainability of CBHF schemes can be greatly improved if some basic principles of management are put in place.

Management of the CBHF should ensure that operational procedures are in place. These should be compiled in a document that is periodically reviewed and updated. Figure 5.1 illustrates the process of enrolling a scheme member (and of dealing with a community resident who declines to join the scheme).

A key ingredient of good management and, thus, of the success of a CBHF scheme, is the integrity of the data that is available to prepare management reports and for planning. As in any insurance business, sustainability depends greatly on the validity of the assumptions on which premiums are based. These assumptions must be supported by accurate historical data, as well as projections of future trends of utilization of services, membership levels, and costs of services.

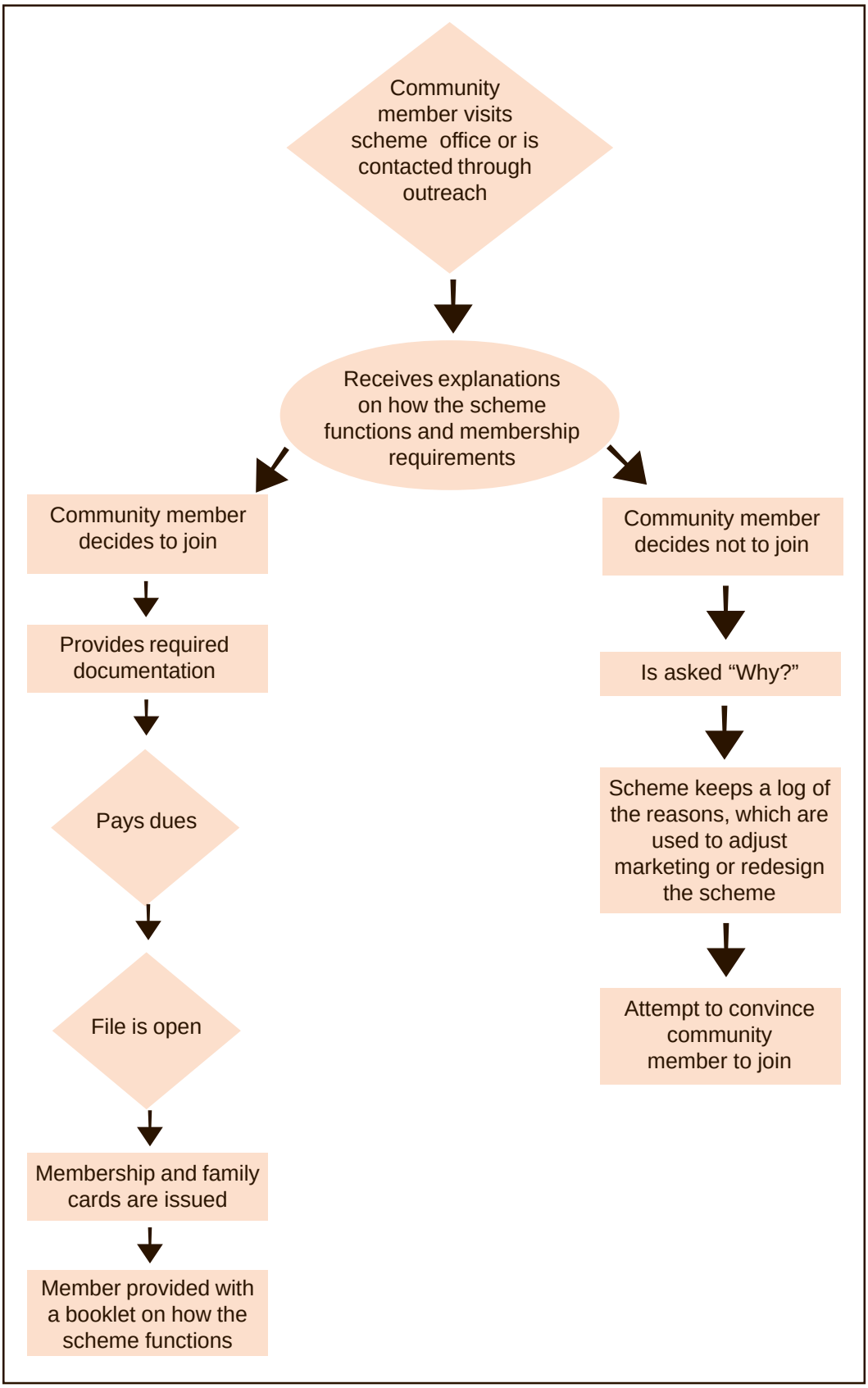
The success of a CBHF scheme also depends on the interaction of all the various stakeholders and their mutual understanding of their role in the success of the scheme. The stakeholders of a CBHF scheme include:

- Scheme members
- Scheme staff
- Health service providers
- Provider staff
- Community leaders
- Government and other regulatory authorities.

Staff members, scheme members, providers and all other stakeholders should understand the flow of activities. Persons responsible for different activities should receive training and job aids.

Example

Figure 5.1 Process for Becoming a Member



5.1.1 Enrollment

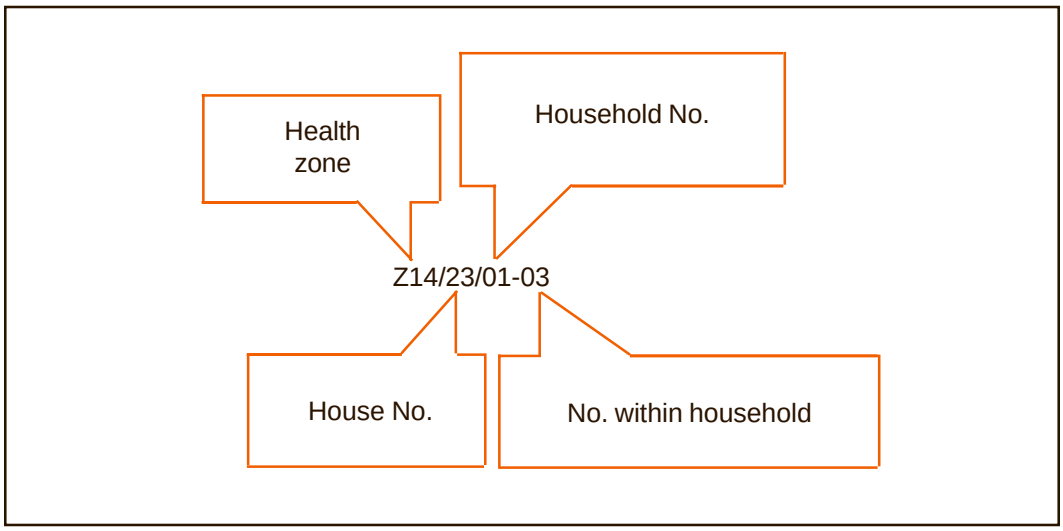
One important operation is establishing procedures to recruit and enroll scheme members.

The scheme decides on the documentation that will be required from members, such as birth certificates (where available), other forms of identification, proof of income, pictures, etc. The scheme should also ask members for basic information regarding other members of their household:

- Name
- Age
- Sex
- Address
- Relationship with household head
- Occupation, and
- Health status

Once a member is accepted, he/she is assigned a unique identification number that will be used to identify him/her and the household. This identification number can be based on addresses (such as house number and zones), or on a numerical system. This number is used by the scheme to keep track of membership activity (usage of services, costs, and payment of dues). Figure 5.2 explains an illustrative identification number.

Figure 5.2 Example of an identification number



The workers of the scheme should be able to identify certain features (such as village of origin) by looking at the number; the identification number should also facilitate production of statistics from the database.

5.1.2 Identification Cards, Family Cards, and Orientation Information

Most schemes provide their members with an identification card that will be used to seek services from a provider. Identification cards facilitate identification of members by health providers.

In addition to issuing identification cards to members, most schemes hold family cards/files at the scheme (in addition to a computerized database where possible).

The scheme also decides on the standard orientation and other information that will be given to new members so that they have a clear understanding of the scheme and the way it functions, as well as to create and/or reinforce a sense of belonging and community ownership of the scheme. (Refer to Chapter 6 on social marketing.) Brochures explaining membership rules can be designed in areas where the literacy rate is high.

5.1.3 Entering and Managing Data

CBHF schemes should maintain membership databases to help them manage their operations. Due to the high volume of data, even for the smaller schemes, it is highly recommended that the data be maintained in a computerized system. The system should provide the scheme with statistics on its members and services.

Data entry in any system, computerized or manual, should be supervised to ensure that all data is accurate and recorded in a timely manner. Figure 5.3 presents various components of a database, organized in tabular form.

Figure 5.3 Example of a Database

Membership Table

Ins. #	ID #	First Name	Last Name	Title	Relationship with Member	DOB	Sex	Occupation	Address	Remarks

Diagnosis Table

Diagnosis #	Type of Diagnosis	Clinician Initials

Premium Table

Insurance #	ID #	Premium Amount Received	Date Received	End Waiting Period	Expiration Date	Enrolled by	Membership Status

Billing Table

Ins. #	ID #	Admission Date	Discharge Date	Diagnosis	Drugs	Lab	Consult-ation	X Ray	Surgery	Follow up	Bill Date	Cheque Receipt #	Cheque Receipt Date

Following is a sample of the information that can be retrieved from a database that uses the tables shown in Figure 5.3:

- Number of registrations for a period
- Rate of occurrence of a type of diagnosis
- Cost per service per age/sex group per time period
- Number of hospital days per admission
- Morbidity and mortality rates
- Drop-out rate
- Membership composition (sex, age), occupation, etc.
- Mailing lists
- Expenses per household per month
- Number of members enrolled per field worker
- Service utilization per member

With the data, the scheme can identify trends for its planning projections, compare the health status of its members with that of other population groups, manage membership status, analyze cost evolution, design more efficient marketing tools by knowing its members, and perform a variety of other management functions.

Suggested software for financial statements (see Toolkit): Excel, Quicken

5.1.4 Customer Service

Even though CBHF schemes are non-profit organizations, it is important for them to view members as clients who are entitled to the highest possible quality of service. Schemes should therefore consider customer service policies and staff training on issues such as facing a dissatisfied member, or explaining reasons for not covering certain services. Having satisfied customers or clients is one of the best marketing tools a scheme can have.

The scheme should have a clearly spelt out complaints procedure which is understood by all members. Suggestion boxes and other means for members to register their comments should be made available. Staff identification badges or uniforms help members know who to deal with.

5.1.5 Relations with Service Providers

Service providers are key partners of CBHF schemes. Whether the scheme and provider are under a single entity or separate, it is important for the two to agree on procedures and protocols for information sharing. This is especially important where the scheme is created by a health facility, so that the scheme is able to operate “at arm’s length” from the facility. In a case like this, the scheme should be considered a separate department or unit, with its own staff, budget and performance objectives.

Agreements should be drafted and signed by both parties, highlighting the following:

- Accounting information: what information will billings contain?
- Payment procedures
- Prices and payment deadlines
- Quality of service
- Periodic evaluations

- ▲ Procedures to follow in the event of conflict
- ▲ Frequency of meetings.

Such agreements will clarify expectations from both parties.

5.1.6 Relations with Board of Directors and Other Committees

The scheme's management and personnel should clearly state procedures, such as who does what, who decides on what, who has the authority to call meetings, the frequency of meetings, and the kinds of reports to be presented to the board and when.

Design an Internal Manual Describing all the Processes. Make it Available to all Staff Members and Use it to Train New Staff Members.

Exercises:

1. What style of identification numbers are used in your scheme? Is there information that they should be capturing but are not?

2. Design an appropriate member identification number for your scheme.

3. What information is routinely available from your scheme's management information system? How do you use this information? What additional information would you like to get from the system?

5.2 Financial Management

5.2.1 Introduction

Financial management in any organization involves the following key aspects:

- ▲ Planning and budgeting
- ▲ Recording transactions
- ▲ Control over revenues, expenditures, data, and use of assets
- ▲ Reporting the financial outcomes of activities for purposes of monitoring performance

In order to operate efficiently, the scheme needs various resources, including staff, workspace, and equipment; the type and quantities will depend on the size of the scheme. As service-oriented organizations that manage financial resources, CBHF schemes should have adequate equipment, more specifically in information technology (i.e., computers and software).

Minimum resource requirements should be:

▲ Staff with adequate skills for their work.

▲ Work space for staff and for scheme members to access to services. (If the scheme is part of a health facility, this space may be contained within the facility).

▲ Information technology with adequate software for the management of the membership database and other operations.

▲ Transport, or at least access to transportation (such as motorbikes for grassroots activities and accessing all stakeholders, and ensuring that information is transmitted in a timely fashion).

▲ Office equipment such as desks, chairs, and writing materials.

▲ Office safe, lockable filing cabinets.

▲ Insurance cover for all equipment and other assets as appropriate.

5.2.2 Protection of Data

All data should be protected from unauthorized access. Computers can be protected by use of passwords, lock, and key. Data can also be lost to viruses so the scheme needs to invest in a good anti-virus software program that is regularly updated. Management should establish a clear policy regarding the use of the scheme computers and the introduction of diskettes and computer files from non-scheme computers.

Mishaps such as hard disk crashes are common and it is necessary to maintain the discipline of backing up all data regularly and frequently. The scheme may need the services of a computer specialist to set up these data management and protection processes.

5.2.3 Resource Management

The resources of the scheme (personnel, facilities, equipment and supplies, and funds) should be managed in such a way that maximum benefit is derived from them. Managing resources efficiently, economically and with adequate maintenance is a tool to reduce expenditures. Staff, as one of the key resources of the scheme, should also be managed to insure maximum productivity. Human resource management is dealt with later in this chapter.

For equipment, it is therefore important to follow the guidelines below:

▲ Conduct research on price and appropriateness of equipment prior to purchasing.
▲ Make all users responsible for the proper maintenance of all equipment.
▲ Enter all equipment in the asset register and update it regularly with new information.
▲ Plan for and replace equipment that is no longer usable.

Table 5.1 Some Indications on Purchasing Equipment

Procedures	Documentation	Person Responsible
Express needs for equipment	Purchase request	Manager
Ensure that the equipment was budgeted	Accounting books	Manager/accountant
Approval	Completed purchase request	Treasurer
Confirm prices	Price estimates	Accountant/manager
Select provider(s)	Minutes of meeting	Manager/treasurer
Confirm order	Order form	Manager
Make partial payment	Purchase request, order form	Manager/treasurer
Receive equipment	Delivery receipt	Manager/accountant
Enter transaction in books	Bank/cash book, asset register if necessary	Manager/accountant
Pay balance	Accounting books	Manager/accountant

Figure 5.4 Sample Purchase Request or Delivery Form

Purchase request (or delivery form)

Name of supplier: ……..…...
Date: …….
Requested by (or Received by): ……

Equipment/Supply	Quantity	Price per Unit	Amount	Observations
Total				

Total amount……..
Approved by (PRINT NAME):…….
Signature: …….

Purchasing equipment and supplies also implies managing inventories. It is important to:

- ▲ Maintain inventory lists.
- ▲ Conduct physical inventories periodically.
- ▲ Compare physical counts to inventory list.
- ▲ Value stocks at the end of each accounting period.

Table 5.2 Sample Inventory Form

Type of Equipment:

Date	To/From	Incoming	Outgoing	Balance	Observation/Signature

The schemes should also hold forms for the maintenance of equipment.

Table 5.3 Sample Maintenance Form

Date of Maintenance	Maintenance Activities/Repairs	Checked by	Cost	Approved by

5.2.4 Entering and Managing Financial Transactions

In order for a CBHF scheme to efficiently manage its finances, it needs an accounting system to enter daily transactions and serve as the basis for the financial monitoring of the scheme. The major accounting books a scheme should hold are:

- A **cash book** for cash transactions and a **bank book** for cheques;
- An **invoice register** (also useful for keeping track of invoices received and invoices issued);
- A **fixed asset register**;
- A **general ledger** to summarize its transactions under different account headings (If the scheme is large, this tool may be appropriate to use).

The scheme should follow generally accepted accounting practices and ensure that its annual financial statements are audited by an independent auditor.

5.2.5 The Cash and Bank Books

These books are used to record *ALL* payments and receipts made in connection with the scheme. The entry sources are payment vouchers, cheques, receipts, etc. Since it is highly recommended that cheques be used for most transactions, the cash book should contain very few transactions.

Figure 5.5 Example of Cash/Bank Book

Quarter 3 - 1999 - RECEIPTS						Quarter 3 - 1999 - PAYMENTS					
Date	Trans-action ID*	Amount	Analysis of receipts			Date	Trans-action ID	Amount	Analysis of payments		
				Reg. Fees	Int.				Claims	Salaries	Supplies
10/25	Receipt #0245	150.00		150.00		10/29	Cheque #0150	100.00			100.00
						11/02	Cheque #0151	250.00	250.00		
	Totals	**150.00**		**150.00**			**Totals**	**350.00**	**250.00**		**100.00**

* The transaction ID should be a cheque number, a voucher number, or any other method of labeling and identifying transaction documents

5.2.6 Collecting Cash

The importance of cash to any organization, including CBHF schemes, cannot be overemphasized. CBHF managers need to take appropriate action to record transactions and safeguard cash. The following guidelines should be used:

▲ Ensure all transactions are authorized and entered on a timely basis.
▲ Prevent unauthorized access not only to cash, but also to non-asset items such as pre-numbered receipts.
▲ Ensure the recorded accountability of assets, such as cash on hand, are periodically compared and tested against actual amounts and that appropriate action is taken to correct any discrepancy.

The following specific measures may be taken to safeguard cash:

▲ Purchase and use a safe.
▲ Use a cash register.
▲ Deposit all money received into the bank promptly and intact; do not use any for "petty cash."
▲ Open and use a bank account; limit cash transactions to the minimum.
▲ Set a maximum amount of money that may be kept in the cash box for small cash payments.
▲ Set a maximum amount for cash transactions to be paid out of petty cash.
▲ Use standing orders where possible.
▲ Do not make a single person responsible for all the financial management of the scheme; clearly divide the responsibilities of the treasurer, bookkeeper, and cashier among different persons.
▲ Perform regular cash audits, preferably without notice.
▲ Where possible, set up an automatic dues payment system through the members' bank accounts or payroll.
▲ Require supporting documents for all transactions, such as receipts or vouchers for withdrawals or payments of funds.

5.2.7 Reconciliation Statements

Reconciliation statements reconcile or correct the difference between the balance shown in the office's bank records and the balance in the bank's statements of accounts. Ideally, a value entered into the office's bank book should have a corresponding value in the bank's records, and vice versa. The procedures are:

- ▲ Enter in the bank book items that are in the bank statement but not in the bank book.
- ▲ Add cheques that were received and entered in the bank book to the bank statement (add to ending balance on bank statement).
- ▲ Add to the bank statement cheques that were paid out and entered in the bank book (subtract from ending balance on bank statement).

The balance on the bank book and on the bank statement should correspond.

Possible causes of differences are:
- ▲ bank charges
- ▲ commission
- ▲ standing orders
- ▲ transfers into the scheme's account.

5.2.8 Invoice Register

It is extremely important for a CBHF scheme to maintain good financial relations with its providers. Payments should be made to providers in a timely manner, and funds collected in order to make the payments. The scheme should therefore keep a log of all incoming and outgoing invoices.

Figure 5.6 Example of Register

Incoming

Invoice No.	Issuer	Invoice Date	Due Date	Amount Due (D)	Amount Paid (P)
				⇩	⇩
Total					
	Balance (D-P) ⇨ (Accounts Payable)				

Outgoing

Invoice No.	Recipient	Invoice Date	Due Date	Amount Due (D)	Amount Paid (P)
				⇩	⇩
Total					
	Balance (D-P) ⇨ (Accounts Receivable)				

Suggested software (see Toolkit): Excel, Quicken.

5.2.9 The Fixed Asset Register

The fixed asset register provides information on all equipment planned, bought, supplied, and installed; on the preventive maintenance schedule of existing equipment; on the availability of a manual related to each piece of equipment; etc. It is also used to verify the existence of the equipment of an organization.

Table 5.4 Example of an Asset Register

Type of Asset	ID Number	Date of Purchase	Location	Manual Available (Yes/No)	Value	Expected Life Span (Years)	Supplier	Date of Instal.	Deprec. Rate
Computer	C0715	05/16/97	Manager	Yes	$1,200	5	TechnoCo	05/20/97	20%
Chair	CH742	12/12/96	Reception	No	$25	5	WoodPlus	12/12/96	0%
Desk	DE826	12/12/96	Reception	No	$50	5	WoodPlus	12/12/96	0%

5.2.10 Depreciation

The asset register serves as a basis for calculating depreciation. ***Depreciation*** is an annual reduction in the value of durable assets (building, office equipment, vehicles, etc.) as a result of deterioration, wear and tear from daily use, and/or technology enhancement. Depreciation is considered an expense. It should therefore be deducted from revenue each financial year. There are basically two methods for calculating depreciation: the fixed installment or straight-line method, and reducing balance method. The scheme should select one method and use it consistently.

5.2.10.1 Fixed Installment

The fixed installment method writes the same amount off the book value of the asset each year. The fixed installment formula of depreciation is as follows:

Depreciation value per year = Cost of asset - residual value / Useful life in years (The cost of the asset minus the residual value is the amount the asset could sell for after it is fully depreciated.)

Example:

Cost of a computer: Ksh 70,000
Useful life: 5 years
Residual value: Ksh 20,000
Depreciation: (70,000 – 20,000) / 5 = 10,000

Therefore, for the computer, Ksh 10,000 should be expensed on the statement of income and expenditure and deducted from the assets on the balance sheet for 5 years.

5.2.10.2 Reducing Balance Method

The reducing balance method writes a fixed percentage off the book value of the asset each year. It is more suitable in cases where the value of the asset falls faster in the earlier years of use than in later years and the organization therefore wants to charge a higher amount against earlier profits.

The reducing balance formula of depreciation is as follows:

Depreciation value = Book value x rate of depreciation.
(The book value is the cost of the asset less the depreciation amount since the asset was purchased.)

Example:

Cost of a computer: Ksh 70,000
Rate of depreciation: 20% - Useful life: 5 years

Year 1: Depreciation = .2 x 70,000 = 14,000	Book value = 56,000
Year 2: Depreciation = .2 x 56,000 = 11,200	Book value = 56,000 – 11,200 = 44,800
Year 3: Depreciation = .2 x 44,800 = 8,960	Book value = 44,800 - 8,960 = 35,840

The following depreciation rates per year are the most commonly used, and they apply to both depreciation methods.

Land:	0%
Buildings:	2 - 5%
Furniture:	20%
Equipment:	20 - 33%

Figure 5.7 Example of a Depreciation Table

Depreciation Table for XYZ CBHF as of 12/31/99, Using the Fixed Installment (Straight-line) Method

		Value			Depreciation			
Description	Date of purchase	Cost	Residual value	Total depreciable value	Life Span (in years)	Accumulated Depreciation Jan 1, 99	Depreciation/ Current	Accumulated Depreciation Dec 31, 99
Computer	01/01/98	1,200	50	1,150	5	230	230	460
Copier	01/01/97	2,000	50	1,950	4	976	488	1,464
Fax	12/31/96	500	25	475	4	238	119	357
Total		**3,700**				**1,444**	**837**	**2,281**

Calculations for computer: Initial cost of $1,200 – Residual value of $50 = $1,150
$1,150 / Life span of 5 years = $230, which is the amount to be depreciated each year for 5 years

- ▲ $230 depreciated for 1998
- ▲ $230 depreciated for 1999

Accumulated depreciation: 230 + 230 = $460

Calculations for copier: 2,000 – 50 = $1,950
1,950 / 4 = $488
➨ $488 depreciated for 1997
➨ $488 depreciated for 1998
➨ $488 depreciated for 1999
Accumulated depreciation: 488 x 3 = $1,464

Calculations for fax: 500 – 25 = $475
475 / 4 = $119
➨ $119 depreciated for 1997
➨ $119 depreciated for 1998
➨ $119 depreciated for 1999
Accumulated depreciation: 119 x 3 = $357

5.2.11 Financial Statements

The various stakeholders of an organization expect management to ensure the financial health of the organization. To do this, management needs at least a fundamental understanding of financial statements, the reports in which financial information is presented, and some key tools to analyze the data. The proper presentation of financial accounting data is a critical tool for decisionmaking for those who are interested in the CBHF scheme.

The transactions entered in the accounting books described above will serve as the basis for preparing the financial statements. The statements highlight the financial status of the organization and are prepared monthly (especially during the first year of operations), quarterly (for internal use) or annually (for the general public: members, board of directors, providers, and all other stakeholders). These statements are:

- The budget,
- The cash flow projection (cash plan),
- The statement of income and expenditure, and
- The balance sheet.

The income statement and the balance sheet tell the scheme where it is; the cash plan and the budget tell where it is going.

The usefulness of the information in financial statements depends on the accuracy of underlying accounting records and on the accounting policies used in their preparation. Accounting information can be recorded using two different methods: the cash basis or the accrual basis of accounting.

Cash Basis of Accounting

Under the cash basis of accounting, income or expenses occur at the time an organization actually receives a payment or pays a bill. A cash-basis report shows income only if it is received, and expenses only if they are paid. For example, if a scheme issues an invoice to a group for the annual premium for its members, this is not yet considered income since payment is not yet received in cash. Similarly, if a provider has sent an invoice to the scheme

for services given to members, this will appear in the scheme's accounts only when it is paid. The report prepared from such an accounting system is also called a "Receipts and Payments Statement."

The main advantage of this system of accounting is its simplicity. A cash book is sufficient to record all transactions. The major disadvantage is that it does not provide complete information to management. Financial statements prepared under this system omit the debts owed by the scheme and the accounts receivable to the scheme. It is not a good system for use by a CBHF scheme.

Accrual Basis of Accounting

Under the "accrual method of accounting," income or expenses occur at the time an organization renders a service or makes a purchase. With this method, the time when the organization enters a transaction and the time when it actually pays or receives cash may differ. Invoices issued to clients, customers, or members would be reflected in the accounts as income for the period in which the invoice is issued. If they have not yet been paid, they are shown as "Accounts Receivable" or "Debtors" in the balance sheet and as income in the Income and Expenditure Statement.

This is the best system for a scheme to use as it provides more accurate information to management.

5.2.11.1 The Budget

Basis: It is based on statistics from internal database, past financial statements, estimated inflation, organizational needs, etc.

Definition: A budget expresses the resource requirements for implementing the strategic plan of the organization. The budget is an itemized summary of probable expenditures and income for a given period,[47] usually one year. The budget is also the principal tool for managing major decisions about the benefits to be provided to members and the amount of the corresponding dues. At the beginning of a CBHF scheme, or before each new fiscal year, scheme promoters should develop budgets to evaluate different scenarios (for example, the financial consequences of setting the coverage rate at 90 percent instead of 100 percent) and later to compare actual results.

Preparation: Budget preparation involves estimating the amounts of the different budget line items. The major sources of income and expenditure and the key information required to set a budget were identified in Chapters 3 and 4; they should be as detailed as possible. However, once the scheme has been operating for at least a year, it is able to collect data and use the information collected to help predict the future.

Figure 5.8 shows the layout for a budget. It includes a column for the actual performance each month so that the difference between what was budgeted and what was actually achieved can be highlighted in the "Difference" column. This difference between the actual and budget is also called "variance."

[47] The Riverside Publishing Company. 1994. *Webster's II, New Riverside University Dictionary*. Boston, Massachusetts: Houghton Mifflin Company.

Figure 5.8: Illustrative CBHF Budget for 2000

	January			February			March		
Inflows	Budgeted	Actual	Difference	Budgeted	Actual	Difference	Budgeted	Actual	Difference
Registration fees									
Co-payment									
Dues									
Donations									
Total Inflows									
Outflows									
Medical expenses									
Drugs									
Salaries & allow.									
Rent									
Office supplies									
Electricity									
Water									
Telephone									
Office maintenance									
Equipment									
Insurance									
Travel and transport									
Publications									
Publicity									
Bank fees									
Meetings									
Total outflows									
Balance	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**	**0**

Example: Estimating the number of future members for an existing scheme:

If the number of members was 500 in 1997, 550 in 1998 (10 percent increase from 1997), and 605 in 1999 (10 percent increase from 1998), and assuming that other factors are similar to previous years, it is possible to estimate membership in 2000 by taking the average rates of increase from previous years ((10% + 10%)/2 = 10%) at 666 members (605 members in 1999 x 10% increase = 61 membership increase). It is also possible to suggest that since the rate of increase remained the same between 1997, 1998, and 1999, it should remain in 2000 as well. However, a budget should remain conservative and use the least advantageous projections. (Some organizations create three budgets, with zero, medium, and high increase predictions).

Estimating the cost of services covered by the scheme

The services covered will be decided by the scheme's governing body, based on past financial results, members' requests, and service availability. Factors affecting the cost of services include:

- ▲ Estimated number of potential members
- ▲ Choice of services offered
- ▲ Usage rate from previous years' operations
- ▲ Coverage rate
- ▲ Prices of services (estimates including inflation or provided by health providers).

Exercise: Estimating frequency of use of services

Divide the number of users (i.e., those members who accessed care during the period) by the total number of members. Calculate the frequency of use by service for each age group and sex. The scheme should use past data to identify trends.

After the above data is collected, use the following formula (see detailed computations in Chapter 4):

Box 5.1 Cost Per Member For Services Covered

Average cost per member	=	Average cost of a service	x	Average number of times the service was accessed by a single user	x Usage rate

Estimating operating/administrative costs and costs of services

These are based on past years and projection of volumes (for example, if new staff will need to be hired) and should take into account inflation.

The membership and cost estimates are used to set dues or premiums (see Chapter 4). However, it is difficult to increase the premium in the case of CBHF schemes since the target population is usually poor. Any projected increase will therefore have to be accompanied by a social marketing or public awareness plan to sensitize all stakeholders. Other alternatives, such as adjusting (possibly reducing) the benefits package or increasing co-payments, may also be considered if cost escalation is a problem.

The Budget Should be Closely Monitored Throughout the Year and Action Taken to Correct Any Large Differences.

5.2.11.2 The Cash Plan

***Basis*:** Cash and bank books

Definition: The cash plan paints a picture of projected cash inflow (to be received) and cash outflow (to be paid out) each month during a given fiscal year. The use of a cash plan enables a scheme to ensure that it always has sufficient cash to meet its obligations vis-a-vis its members and providers.

Preparation: To prepare the cash plan, each item of the scheme's cash outflow and inflow are evaluated on a monthly basis throughout the year; previous cash and bank books should be used, adjusting for the number of members and cost of services for the current year.

The cash plan should be closely monitored on a monthly basis so that corrective action may be taken if necessary.

If cash outflow is low and financial obligations are being met, the scheme should make good use of its money by placing it in a safe place and investing a portion of it with interest (preferably low risk investments).

If a negative cash position is projected, the cash plan will also be a necessary tool to negotiate loans or extensions in payment deadlines with creditors, take action to obtain some cash inflow earlier than planned or to sell an asset to obtain new funds.

Table 5.5 Example of a Cash Plan

	January			February			March		
Inflows	Budgeted	Actual	Difference	Budgeted	Actual	Difference	Budgeted	Actual	Diff.
Registration fees	500,000	450,000	-50,000	500,000	500,000	0	500,000	525,000	25,000
Dues	2,500,000	2,000,000	-500,000	2,500,000	2,100,000	-400,000	2,500,000	2,250,000	-250,000
Total Inflows	**3,000,000**	**2,450,000**	**-550,000**	**3,000,000**	**2,600,000**	**-400,000**	**3,000,000**	**2,775,000**	**-225,000**
Outflows									
Medical expenses	1,250,000	1,200,000	-50,000	1,250,000	1,250,000	0	1,250,000	1,300,000	50,000
Drugs	250,000	300,000	50,000	250,000	450,000	200,000	250,000	400,000	150,000
Operating costs	800,000	750,000	-50,000	800,000	650,000	-150,000	800,000	800,000	0
Total outflows	**2,300,000**	**2,250,000**	**50,000**	**2,300,000**	**2,350,000**	**50,000**	**2,300,000**	**2,500,000**	**2,000,000**
Balance (Inf.-Outf.)	**700,000**	**200,000**	**-500,000**	**700,000**	**250,000**	**-450,000**	**700,000**	**275,000**	**-425,000**
Investment (-)	-200,000	-100,000	-100,000	-200,000	-50,000	-150,000	-200,000	-50,000	-150,000
Inv. Withdrawals(+)	0	0	0	0	0	0	0	0	0
Loans(+)	0	0	0	0	0	0	0	0	0
Loan repayment(-)	-50,000	-50,000	0	-50,000	-50,000	0	-50,000	-50,000	0
Balance	**450,000**	**50,000**		**450,000**	**150,000**		**450,000**	**175,000**	
Carryover prev. month	**100,000**	**100,000**		**550,000**	**150,000**		**1,000,000**	**300,000**	
Bal. carried forward	**550,000**	**150,000**		**1,000,000**	**300,000**		**1,450,000**	**475,000**	

5.2.11.3 The Statement of Income and Expenditure

Basis: Cash book and bank book or General Ledger

Definition: The statement of income and expenditure is a summary of an organization's revenue and expenses over a given period. The income statement illustrates how much the organization makes or loses during the year. By subtracting expenses from revenue, you arrive at a net result, which is either a profit or a loss.

Preparation: Expenditure may be paid immediately by the bank or out of petty cash, or deferred in time by incurring a debt (money owed to suppliers). Expenditures may have two purposes:

- ▲ to acquire durable goods that will become part of the scheme's assets (such as buildings or vehicles) and will be depreciated, or
- ▲ to pay for certain goods and services the scheme needs to do its work (such as reimbursement for health care, travel costs, rent, and other expenses.)

Only the second category is a recurrent expenditure and has a negative effect on the scheme's income.

Income also may be earned immediately or over time and may come from two types of sources:

- external sources, such as grants and loans, or
- internal sources based on its activities, such as membership dues, interest on investments, etc. Only this category of revenue has a positive effect on a scheme's income.

In summary, expenditures include all the expenses which are not depreciated, as well as the depreciation amount for the period only, loan repayments and taxes. Revenue includes all the earnings from activities for the period.

The outcome is a profit if revenue is greater than recurrent expenditures. It is a loss if recurrent expenditures are greater than revenue.

Table 5.6 Example of a Statement of Income and Expenditure
XYZ CBHF Statement of Income and Expenditure – 1998

1998	(in 000 of Ush.)
Income	
Member dues	325,000
Registration	287,000
Donations	37,000
Interest	1,100
Total	650,000
Expenditure	
Claims	330,000
Operating costs*	118,000
Marketing costs	115,000
Total	563,000
Surplus (loss)	**87,100**

* Operating costs include 10,000 Ush depreciation for 1998. A motorbike was purchased during 1998, but the entire cost is not included as an expenditure, since it will be depreciated.

5.2.11.4 The Balance Sheet

Basis: Register of invoices, asset register, depreciation table, cash and bank book, bank statements, General Ledger.

Definition: The balance sheet is a summary statement that shows the status of the organization's worth at a given date. The balance sheet gives the value of assets (properties or how the money has been used) and liabilities.

Preparation: The balance sheet should contain the following line items:

Total Assets, comprised of current assets and long-term (fixed) assets.

Current assets are assets that will be converted to cash or will be used by the scheme in a year or less, and comprise the following:

Cash	Cash available on the date of the balance sheet; this includes all cash in hand and cash in current and savings accounts (from cash and bank books, after bank reconciliation has been performed).
Accounts receivable	Total income that was earned prior to the date of the balance sheet and is yet to be received (from register of invoices).
Short-term investments	Investments that can be redeemed in less than one year, such as treasury bills (from bank statements and other proofs).

Long-term assets are assets that are durable and will be converted to cash in more than one year. They include:

Equipment	Cost of all depreciable equipment less accumulated depreciation (from depreciation table).
Land and building	Cost (book value) of land and buildings, if owned by the scheme, less accumulated depreciation (from depreciation table).
Long-term investments	Investments that cannot be converted into cash in less than one year (from bank statements).

Total Liabilities, comprised of current liabilities and long-term liabilities.

Current liabilities are the debts of a scheme that are due within one year, and include:

Accounts payable	Bills from providers and suppliers which have not been paid (from register of invoices).
Short-term debt	Any loan (debts) due within a year (from bank statements and other proofs).
Long-term liabilities	Loans (debts) that are due within a period over a year (from bank statements and other proofs).
Reserves or Funds	These can be made up of:

▲ Accumulated surpluses of deficits, in which case they are called "Operating Fund" or "Operating Reserves"

▲ Restricted funds that were set aside for a specific purpose. Donors will usually restrict their donations and these have to be accounted for under agreed procedures.

▲ Capital funds that represent the net book value of the fixed assets of the organization. These capital funds are normally found in NGOs that use fund accounting.

We highly recommend that CBHF schemes hold a reserve or endowment fund, in the event of unpredictable increases in expenditures, such as a malaria epidemic or a high rate of inflation. The reserve should be built into the calculation of premiums and is at the discretion of management as long as it does not push the premium beyond the ability of the target members to pay. For example, a reserve fund can be set at 2 percent of total costs. This is treated as a liability in the balance sheet.

The assets and liabilities sides of the balance sheet must always be equal. Included in the liabilities section are the operating reserves which represent the accumulated surpluses or deficits from the scheme operations.

Figure 5.9 XYZ CBHF Balance Sheet as at 30th June 1999

Assets		Liabilities	
Current assets:		**Short-term liabilities**	
Cash	180,000	Accounts payable	30,000
Accounts receivable	80,000	Short term debt	150,000
Short-term investments	60,000	Total short-term liabilities	180,000
Total current assets	320,000	**Long-term debt**	140,000
Long-term assets:			
Equipment	10,000	**Reserve fund**	100,000
Investments	250,000	**Operating fund**	160,000
Total long-term assets	260,000		
Total assets	**580,000**	**Total liabilities**	**580,000**

5.2.12 Financial Ratios

For a scheme to maximize use of its financial statements, it is important that scheme managers understand how to compute some key financial ratios. These ratios compare different items on the balance sheet or income and expenditure account to give an indication of the financial health of an organization. For example, the scheme may wish to know how easily it can meet its financial obligations as they fall due, in which case it is necessary to look at the ratio of current assets to current liabilities. Alternatively it may want to know how much of its income goes towards paying for administrative costs as opposed to giving increased services to members. In this case it would look at the total administrative costs divided by total income.

Discussion of the most common financial ratios is found in Chapter 8, “Monitoring and Evaluation.”

5.2.13 Cost Accounting

“Cost accounting is involved with the identification, measurement, collection, analysis and communication of financial information. It includes the procedures for processing and evaluating operating cost data and reporting such cost information to management. The reports often include comparisons against historical and predicted standards of performance. By understanding the amount and nature of how costs are

incurred, scheme managers are better prepared to make improved decisions as to how resources are more efficiently and effectively employed."[48]

Chapter 4 looked at the procedures for determining the costs of different services. The scheme should continuously collect and analyze such data. If, for example, the scheme realizes a service has an unusually high cost per member and could jeopardize its financial stability, it can suggest to the governing body and to members to maintain the service, yet introduce a co-payment for that particular service.

5.3 Internal Control

Internal control includes the organizational plan and all the procedures adopted by an organization to safeguard its assets, control the preciseness and the accuracy of its accounting documents, promote the efficiency of its operations, and follow through the policies prescribed by management.[49]

Management auditing is a continuous activity and enables the manager of a CBHI scheme to compare ongoing activities and results with the scheme's objectives and operating procedures, and take action to correct weaknesses and validate strengths. The manager's main reference documents are the business plan, written operational procedures and internal control documents, the budget and the financial ratios.

Each month/quarter, the scheme's manager should write a report evaluating activities (Figure 5.10.) This report is for internal use only and should be presented to the board of directors.

Figure 5.10 Example: Manager's Report

Internal Control Review Step	Manager's Action
❶ Obtain documents and confirm understanding of the internal control system.	Conduct departmental interviews, identify transaction types, prepare flowcharts, and validate the internal processes in place.
❷ Determine if the internal controls, as designed, have any weaknesses.	Complete internal control questionnaires and observe any fundamental violations to effective internal control procedures.
❸ Assess and prioritize the internal control weaknesses and determine the relative amount of financial and accounting risk for each control area.	List, then assess the priorities and risks of each internal control issue under scrutiny. Document the prioritization and risk assessment.
❹ Test current internal controls, either through an audit or through a sample test.	Perform an internal audit on the highest priority areas and determine how all the internal control policy and/or procedures are being adhered to and document the results. Identify variations and revise step 3 above.
❺ Report on findings to the board of directors.	Document the internal control findings in a written report, assess the risks, and propose actions, if any.

[48] Wouters, Annemarie and Bradford Else. April 1996. *Implementing Management Accounting and Control Reforms in the Newly Independent States (NIS): A Manual for Health Care Organizations.* Bethesda, MD: Zdrav Reform Project, Abt Associates Inc. p. 53.
[49] American Institute of Certified Public Accountants, http://www.aicpa.org

5.4 Auditing

5.4.1 Definition

Management auditing examines scheme's operating procedures and methods, including its internal controls, assessing their cost-effectiveness and efficiency. It stresses responsibility flows, their existence, and how well they are understood by the different actors. In management auditing, the examination is not limited to financial records and procedures. It can include the evaluation of:

- Organizational structure
- Information technology
- Marketing strategy and
- Administrative policies

Financial auditing is the independent examination of, and expression of an opinion on, the financial statements of an enterprise by an appointed auditor. The obligations of the auditor are both statutory (for organizations whose audit is required by law) as well as contractual as laid out in the auditor's contract with the client.

5.4.2 Potential Users of Audit Reports

It is first important to determine the audience of the audit reports to ensure that they are written and analyzed in a manner accessible to them. In the case of a CBHI scheme, the potential users are the:

- Board of directors
- Members
- Providers
- State structures
- Other organizations (other schemes, NGOs, etc.)

5.4.3 Planning an Audit

An audit is a time-consuming but necessary exercise that requires planning. For a CBHF scheme, a comprehensive audit should be conducted once a year. If possible, an independent auditor should be contracted to complete the audit, depending on fees, timing, and experience. The auditing body should be selected by the board of directors. However, in the event that a scheme is unable to contract an independent auditor, the report from the manager should be as comprehensive as possible and cover all the areas that would have been covered by an independent audit.

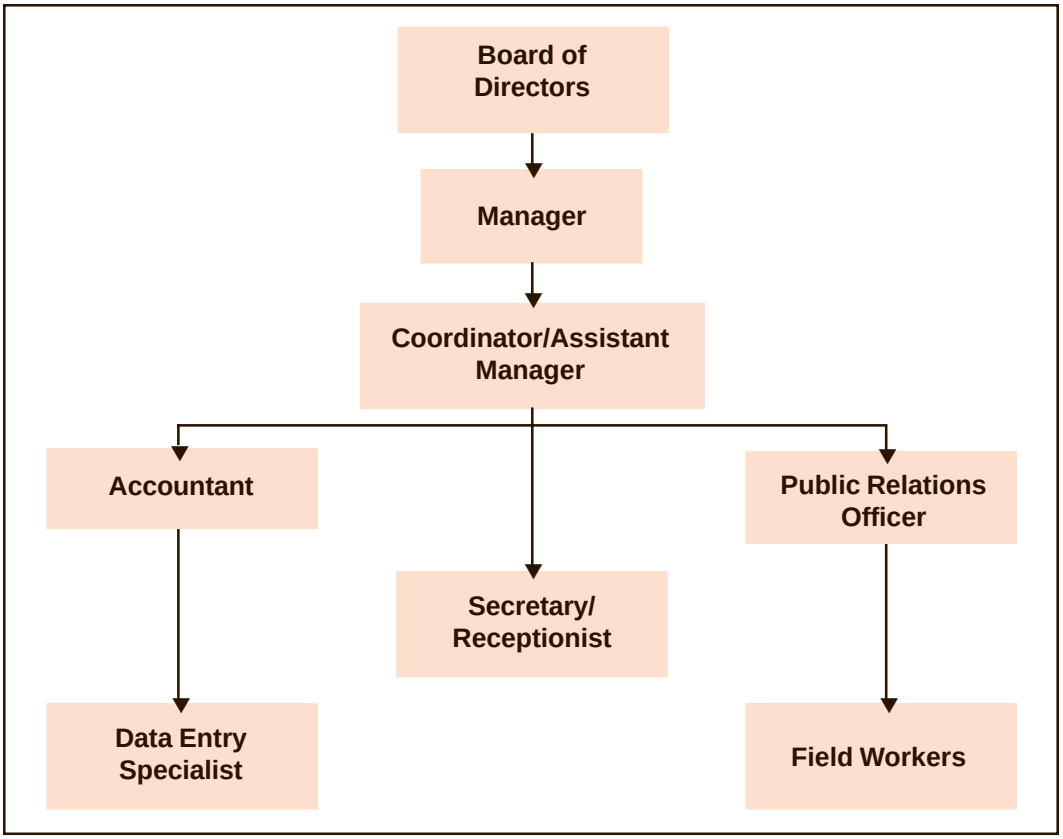
Sample questions for internal control and audit are included in Annex C, at the end of the manual.

5.5 Human Resources Management

5.5.1 Definition

Human resources management is the process of determining the staffing needs of an organization, recruiting and placing personnel, and providing training, development, motivation, support, and supervision to the human assets of an organization. Human resources management is an essential element of the strategy of an organization. Figure 5.5 presents a sample organizational structure.

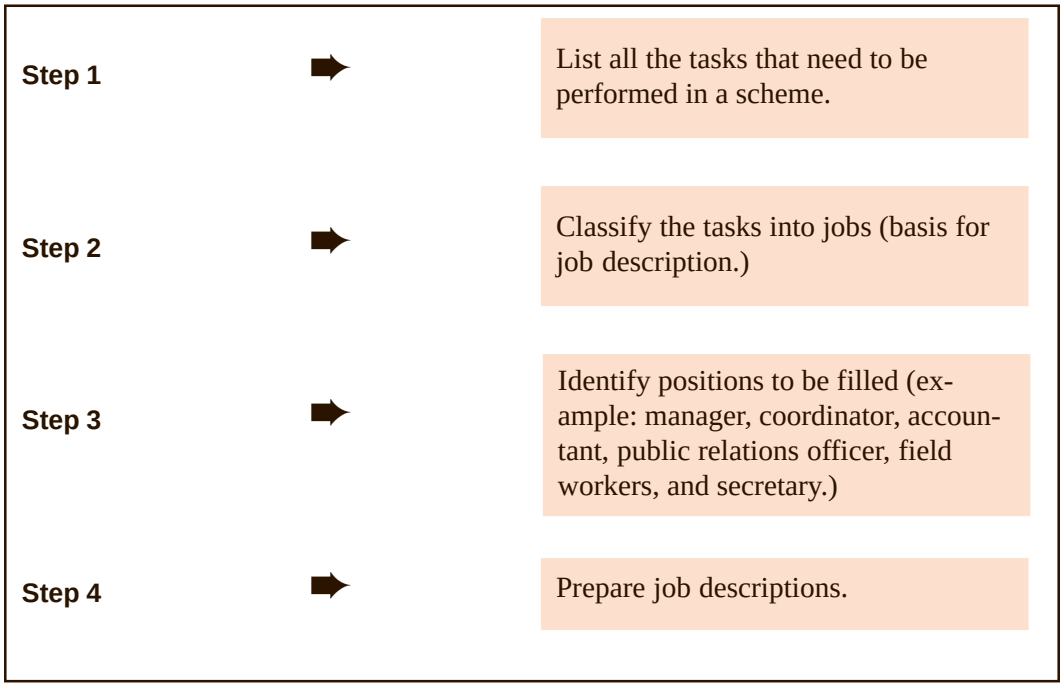
Figure 5.11 Sample Organizational Chart



5.5.2 Determining Staffing Needs

The first step in human resources management is determining the staffing needs, in order to start the hiring process. Figure 5.12 lists the steps necessary to undertake this process.

Figure 5.12: Process for Determining Staffing Needs



Box 5.2 Example of a Job Description

▲ Job title: Manager of XYZ CBHF

▲ Responsible to: Board of Directors of XYZ CBHF

▲ Overall purpose: Responsible for carrying out the vision and strategy of the scheme, and manages the overall work flow of the organization.

▲ Responsibilities: Ensure security of scheme's assets, provide supervision, authorize disbursements, analyze investment opportunities and present them to the board, ensure preparation of reports (financial and activities) and provide analysis of results, authorize procurement of supplies, internal auditing, human resources management, budget preparation and presentation to the board, planning and monitoring, ensure information is transmitted to the board and other stakeholder groups on a regular and timely basis; translate policy, ensure discipline, ensure regular auditing of accounts, call and chair staff meetings, etc.

▲ Performance standards:
Performance will be up to standard when:

- ▲ Realistic plans are made to assure financial viability of the scheme for the year to come,
- ▲ Performance management is introduced by the end of the year 2000 and used annually,
- ▲ Quarterly and annual financial project reports are prepared and presented to the board of directors on schedule,
- ▲ Relevant data on enrollment, usage, and cash flows are documented, analyzed and feedback is provided to the board of directors, scheme staff, members and partners.

5.5.3 Determining Qualification Requirements

Qualification requirements list the skills, technical knowledge, and relevant education and experience required of a prospective employee. Minimum requirements can be added to a job description as a basis for application submission.

Box 5.3 Example: Minimum Requirements for Scheme Manager

Example:

- ▲ Proven ability to manage and provide direction to professional staff
- ▲ Demonstrated commitment to service excellence both in terms of internal and external partners
- ▲ Capable budget manager and knowledge of accounting principles
- ▲ Delegates appropriately
- ▲ Works independently
- ▲ Has credibility in the community
- ▲ Good inter-personal skills
- ▲ Ability to speak local language

5.5.4 Determining Remuneration and Budgeting Requirements

The determination of remuneration packages for a CBHF scheme's staff may be difficult since a scheme is not a profit-making entity. Also, if it is part of a health facility, salary scales may need to conform with government or NGO standards. In order to motivate the workers to perform their assigned tasks, suitable salary and allowance packages appropriate to the community should be developed. The package should be designed with the size of the scheme in mind. The existing salary structure of the government can be a source of information. In fact, a scheme may have to use salary scales that conform to government or NGO standards if the scheme is formed by a public sector health facility or other organization.

Implementing the Recruitment Process

After a scheme has identified the need to hire and the salary, and has ensured that money is or will be available to pay the salary on an ongoing basis, it does the following:

- ▲ Sets work plan for hiring process.[50]
- ▲ Advertises within the community, using local radio, oral advertisement, and other suitable methods and specifying the mode of application (what to submit, drop-off point, date and time, references required, etc.)
- ▲ Reviews applications and makes a short list of the best candidates to invite to interviews.
- ▲ Prepares for the interviews: prepares check list and constitutes an interview panel. (Box 5.7)

[50] It may also be necessary to advertise outside of the community to find applicants with the right qualifications.

- Prepares interview form. Agrees on criteria and ratings.
- Agrees on date, place of interview, and documents the applicants should bring.
- Contacts applicants for interviewing.

Box 5.4 Sample Checklist for Interview

- Introduce panel members
- Ask interviewee to introduce him/herself
- Explain responsibilities of the available position to the interviewee
- Identify skills, knowledge and experience required for employment
- Ask the participant to discuss his/her skills, knowledge and experience and why he/she wants the job
- Describe conditions of service, including working hours, salaries and incentives
- Ask the participant if he/she has any questions
- Inform interviewee of when to expect results
- Conduct panel meeting to make decision regarding suitability of applicant/ comparison of applicants
- Select suitable applicant or restart process

5.5.5 Appointment and Placement

The interview panel should make a group decision to select a candidate. Before the offer is made, the scheme should verify the applicant's credentials and recommendations.

The appointment letter should contain the following:

- Job title
- Salary range and starting point
- Job description
- Conditions of service
- Effective date of appointment
- Deadline for acceptance or rejection of offer
- Requirements such as the need for medical certificates
- Probation period.

5.5.6 Signing the Contract

The scheme should sign a contract with the new hire. The contract specifies the terms agreed upon by both parties. It reiterates the contents of the offer letter and is signed by both the organization and the new employee.

5.5.7 Conducting Orientation

The orientation aims at enabling new staff to become familiar with the work environment. The new hire should be introduced to the culture of the organization and to the authority relationships that exist.

Employees are the most valuable assets of the organization and should therefore be managed as such. Following are some key points an organization should take into consideration in order to increase staff members' motivation and improve their performance.

5.5.8 Conducting Staff Performance Appraisal

Staff performance should be evaluated in relation to previously agreed upon standards and specific targets. These targets should be clearly stated in the contract or job description. The appraisal is also an opportunity to define the targets for the following year and to make recommendations for salary increases and/or promotions.

The three types of appraisal suggested in Box 5.5 should be carried out by CBHF schemes:

Box 5.5 Staff Performance Appraisals

Self-appraisal	Staff appraisal	Management team appraisal
Conducted on a regular basis (usually annually.) Employee uses a checklist, prepares a narrative, and submits them to the supervisor.	Supervising officer uses a checklist to assess employee performance on a regular basis.	All members of the management team appraise the performance of the whole organization in relation to their own performance over a specified period.

5.5.9 Training and Develpment

Training is a process of expanding the knowledge and skills of an employee to enable him/her to improve his/her performance in the current job, or to prepare him/her for new positions within the organization. CBHF schemes should carry out the following in regard to the training process:

- ▲ Determine training needs through supervision, performance appraisal and in relation to job requirements/description.
- ▲ Develop training tools. (More specifically, decide whether training will take place onsite or will be provided externally).
- ▲ Prepare budget.
- ▲ Organize the training.

▲ Evaluate the training session. (This is also a continuous process through appraisal).
▲ Set performance improvement targets based on new knowledge or skills received from the training.

CBHF schemes should continuously seek to expand the knowledge, skills, and performance of their staff. Possible training options are internal, with one staff member training others; inter-CBHF scheme training; with staff from one scheme training staff from another scheme; or training seminars with professional trainers.

Staff development is a continuous process of evaluating the staff's needs (in knowledge, skills, and attitudes [KSA]), to enable them to perform new tasks or to perform existing tasks better, and possibly to advance professionally within the organization. The process includes the following:

▲ Assess organizational objective.
▲ Develop career plan for staff, members in support of organizational objective.
▲ Develop succession plan for staff.

5.5.10 Support and Supervision

Support and supervision is the process of facilitating working relations.

Examples of support and supervision activities include the following, initiated by management:

▲ Hold regular meetings to review progress, discuss issues, and agree on possible solutions.
▲ Maintain an open-door policy and visit employees regularly.
▲ Provide regular feedback to employees and seek feedback from them.

5.5.11 Discipline

Discipline is the process of instituting and using corrective measures to encourage improvement in performance where behavior or performance may have fallen to an unacceptable level.

The disciplinary process includes the following steps:

▲ Counseling (discuss with employee possible causes of misbehavior and offer course of action)
▲ Verbal warning (reprimand employee)
▲ Written warning
▲ Dismissal

5.5.12 Benefits Package

The scheme should provide two types of benefits to its employees:

Core benefits
- ▲ Salaries, allowances and social security
- ▲ Medical treatment

Fringe benefits
- ▲ Rewards (extrinsic and intrinsic)
- ▲ Certificate
- ▲ Verbal statement/acknowledgement
- ▲ Welfare funds

5.5.13 Health and Safety

Organizations are required to provide a clean, healthy, and safe working environment for their staff, for example:

- ▲ Protective clothing (helmet, boots, etc. for field workers)
- ▲ Medical treatment for injuries during work
- ▲ Private insurance (workman's compensation or other coverage for injuries and illness)

5.5.14 Organization

It is also important for a scheme to keep personnel files for each employee, with a record of contracts, evaluations and disciplinary actions, vacation, sick leave, and all other documentation concerning the employee.

6. Social Marketing

This chapter aims to assist CBHF scheme managers and promoters to:

- Define Social Marketing
- Prepare a Marketing Plan
- Select the Most Appropriate Communication Tools
- Assess the Effectiveness of Marketing Efforts

6.1 CBHF and Social Marketing

The need for greater access to affordable, good quality health care in the East and Southern Africa region is already evident. Government per capita financing of health is decreasing in many countries and is failing to keep pace with the AIDS crisis, population growth, and other health issues. The economic situation in the region begs for innovative approaches to address the health care needs of its populations. To date, the only solution tried has been the imposition of user fees; it has had only limited success in enhancing equity, quality, or affordability. CBHF appears to be a promising solution. So why are there not more CBHF schemes? Why are they struggling? It appears that social marketing (and marketing in general) has either been inadequate or lacking. It is therefore important to know how to convince a community of the potential of CBHF membership. Indeed, the success of CBHF schemes rests largely on the ability to "sell" the idea to the community.

One innovative approach to penetrating the community is **social marketing —** the systematic communication of ideas and information with the aim of altering individual human behavior for a social good. In this case, social marketing seeks to create demand for better, more affordable healthcare through CBHF membership. "In social marketing, the consumer is assumed to be an active participant in the change process. The social marketer seeks to build a relationship with target consumers over time and their input is sought at all stages in the development of a program through formative, process, and evaluative research."[51]

By informing the community and encouraging membership, social marketing has great potential to enhance the operation, growth, and sustainability of a scheme. After all, the point of CBHF schemes is that members participate together and share their risks. Without a substantial membership pool, the burden of the risks becomes higher and this naturally serves as a disincentive to join or to continue membership. Conversely, a large membership leads to lower costs, reduced burden, and a stronger scheme. Because membership in most schemes is voluntary, membership must be something that appeals to the community. The key for the social marketer is to "create a desire or need" for membership, or take advantage of a readiness that already exist in the community. Even when membership is mandatory, dissatisfaction of members can cause a scheme to close. Therefore, recruiting and retaining members should not be performed as a random activity but one that requires careful planning, executing and monitoring. Collectively, these functions can be classified as marketing.

[51] Centre for Social Marketing, University of Strathclyde. *What is Social Marketing?* http://www.strath.ac.uk/Other/csm/What.htm

6.2 Definition of Marketing and Marketing Research

Marketing* is the process of planning and executing the conception, pricing, promotion, and distribution of ideas, goods, and services to create exchanges that satisfy individual and organizational goals.

Marketing Research* is the function that links the consumer, customer, and public to the marketer through information – information used to identify and define marketing opportunities and problems; generate, refine, and evaluate marketing actions; monitor marketing performance; and improve understanding of marketing as a process. Marketing research specifies the information required to address these issues, designs the method for collecting information, manages and implements the data collection process, analyses the results, and communicates the findings and their implications.

* Definitions from the American Marketing Association

Chapter 3 touched on the need for CBHF schemes to consider marketing strategies in the process of scheme set-up and design, and to build these strategies into the business plan. This chapter explores in greater detail marketing research, or the process of inquiry and data collection used for the purpose of designing and launching a marketing strategy. The research aims to discover and understand the needs and desires in a community in order to market a product or concept most effectively. In the case of a CBHF scheme, success is unlikely without understanding the community; knowledge of the demography, the prevalent diseases, the expectations of health care, socio-economic status, and willingness to pay all play a part in the social marketing approach for CBHF. If the research is not done carefully and thoroughly, the marketing initiative may not effectively address the needs of the community.

Two related issues are crucial for CBHF schemes in this regard. First, a scheme *must* have an adequate membership pool, or target group of potential members, in order to be viable. Second, this membership pool is directly related to the success of social marketing, so the effort needs to be well planned, pervasive and extensive. The traditional "P's" of marketing are *Product, Price, Place, Promotion, Partnership, Policy, and Politics.*[52]

Box 6.1 puts these concepts into seven steps.

[52] Weinreich, Nedra Kline. 1999. *What is Social Marketing?* Weinreich Communications. http://www.social-marketing.com/whatis.html.

Box 6.1 Seven Action Steps: the P's of Marketing

1. **PRODUCT:** This could be a service (in this case, membership in a CBHF scheme) or an object (e.g., condoms).
   Action: Identify the product you want to market.

2. **PRICE:** What must the consumer do or pay to obtain the product?
   Action: Determine how and why the product is given a price.

3. **PLACE:** The area in which the product will be marketed.
   Action: Identify the place:
   - Why are you targeting this place? (look at geography, demographics, politics)
   - What are the advantages/disadvantages of marketing here?

4. **PROMOTION:** The use of various media to inform the public/target groups of the product.
   Action: Determine what forms of media to use (a list of possible media is in Section 6.3.4)
   - What forms of media will be most effective for the target population? Why?
   - Will this fit in the budget?

5. **PARTNERSHIP:** The organizations/community groups who will help support the effort and work with you.
   Action: Contact local groups to disseminate information and promote the scheme to the communities.

6. **POLICY:** Policy change may be needed to create a supportive environment.
   Action: Determine what factors (if any) impede the marketing effort. How can they be overcome? Go to Step 7.

7. **POLITICS:** Is there a need for political diplomacy to engage communities and gain support?
   Action: Determine how to approach leaders and communities if policy needs change. Interact and discuss with those in influential positions as well as with the broader community to garner support through understanding the purpose of the product.

6.3 Preparing a Marketing Plan

The necessary steps in preparing a marketing plan are to:

- Define the objectives.
- Identify the target group(s).
- Collect data.
- Identify communication channels for each group.
- Analyze the communication channels and their effectiveness.
- Elaborate the strategy.

6.3.1 Define Objectives

Before setting objectives, a thorough analysis of the organization's internal and external environment should be performed. This will help with understanding the need for a strategy and for targeting specific issues, whether these require corrective or consolidating actions.

The next step is to define specific objectives that are measurable and in a set timeframe.

Examples of objectives:

Enroll at least 1,000 members as a condition to launch a new scheme.

Increase scheme membership by 10 percent by December 2000.

6.3.2 Identify Target Group

CBHF schemes seek to increase access to health care services but also to recover costs. Therefore, their target groups include people who can afford health care services whenever they need them; people who can afford scheme participation even though they find it difficult to pay fees at the time of each visit; and people who have no resources to pay for scheme participation or user fees.

Following is a list of target groups that a CBHF scheme may seek to influence or enroll. Schemes usually work with one or two groups at a time.

- Current scheme members (can be divided by age, sex, occupation, education);
- Former scheme members;
- Community members at large;
- Community leaders (political, religious, business, etc.);
- Health care providers;
- National authorities (such as Ministry of Health);
- Development partners (such as NGOs); and,
- Community groups (trade unions, farmers' cooperatives, credit unions, teachers, students, savings societies, religious groups, and others).

6.3.3 Collect Data

The marketing team needs to know the composition of the target groups, current health care behavior, wishes and attitudes and sources of information. To gain this knowledge, it first reviews existing records: population census reports; maps; project reports from local groups; rapid rural assessments and participatory rural appraisal reports; reports from district assemblies, health units, the Ministry of Health, and other community entities (see Chapter 1). Then, it attempts to answer the following questions:[53]

[53] Atim, Chris. September, 2000. *Training of Trainers Manual for Mutual Health Organisations in Ghana.* Bethesda, MD: Partnerships for Health Reform Project, Abt Associates Inc.

▲ What are the demographics (sex, age, occupation, education level, income level, etc.)?
▲ What is the literacy rate?
▲ How many households have working radios?
▲ How do users of health services get information and advice about health, in which order, and from which various sources?
▲ What are the most trusted sources of information?
▲ Who talks to whom?
▲ Which sources are effectively accepted, understood, memorized, and followed?
▲ How do people pay for health care now?

If the information is not in existing records, additional research in the community is needed. Experienced researchers in a nursing school or university hospital or a market research organization may be available to do the research. Other appropriate tools to learn about the target groups are surveys, focus groups, and interviews.

Questionnaires/surveys: Instruments for collecting *quantitative* data (numbers and facts) or *qualitative* data (information on people's attitudes, beliefs, knowledge, preferences, and behavior).

Process:

I. Define purpose of survey. Define research questions.
II. Design questions that attempt to accomplish the purpose of the survey. (Do not include unnecessary questions. Ask yourself for each question: What will we do with the answer to this question? How will it help us market our scheme?)
III. Pre-test the survey with six to10 members of the target group; make changes.
IV. Translate survey into local language(s), then have it back-translated. Field test it.
V. Prepare a data collection worksheet / plan
1. What is the target group for data collection?
2. Who in the community can help in data collection?
3. What can they do?
4. Where will data collection take place?
5. When will it take place?
6. How will you inform the targeted group?
7. What material resources are needed to collect the data?
8. How much money is needed to collect the data?

VI. Train the surveyors.
VII. Collect data. Check each questionnaire right away the first several days to correct and avoid problems.
VIII. Analyze data*:
1. Use indicators to follow up on activities.
2. Determine whether progress has been made towards reaching objectives or where problems exist.
3. Identify corrective actions to take.

* Please note that tabulating and analysing the results of a questionnaire or survey can be done by hand, or with the use of a computer and database program.

Focus group discussions: Informal means of collecting qualitative data.
Process:
1. Assemble a group of six to 10 members that are representative of the target group.
2. Ask them to discuss certain issues and concerns. Record their discussion on tape and take notes as they talk.
3. Make sure each group member has an equal chance to express his or her view. Encourage members to discuss and argue with each other.
4. List the main points on each topic discussed.
5. Discuss and plan how your findings will help improve your scheme and market it.

Key informant interviews: Method of collecting both qualitative and quantitative data from people who are in a unique position to know and understand the community and its needs. Traditional leaders, community or religious leaders, doctors, and health workers are good informants. These individuals have an idea of the opinions of those they represent and serve. Others have quantitative information about the community.

6.3.4 Identify the Best Communication Channels for Each Target Group

Communication channels are the means by which information is disseminated among individuals and groups. Following is a list of possible communication channels used by and accessible to community members:

Community Members/Leaders
Traditional chiefs
Town criers
Recognized influential citizens
Elders
Religious leaders

Organizations
Schools
Religious groups
Local government structures
Local improvement unions
Professional and community associations

Health workers
Health providers
Health staff and traditional healers
Community health workers

Places
Market centers
Village squares
Churches and mosques
Health facilities

Media
Radio
Television
Posters
Signboards
Door-to-door visits
Videos
Brochures
Folk media
Theater
Songs

6.3.5 Analysis of Communication Channels and their Effectiveness

Consider the following questions to determine the most appropriate communication channels.

- ▲ What is the decision-making process in the target group?
- ▲ What individuals are the authority figures at the household and community levels (or the primary decision makers)?
- ▲ How can the target group be influenced?
- ▲ Which two or three communication channels will be most effective in reaching and influencing this target group?
- ▲ What are the possible drawbacks?

6.3.6 Plan Strategy

Once the data above has been collected, a strategy with the following information can be elaborated: objective, target group, persons responsible, communication tools, costs, entry point, and timetable. Box 6.2 provides an example of a marketing strategy. Box 6.3 presents the activities and financial resources needed to carry out the objective(s) in the strategy.

Box 6.2 Example of a Marketing Strategy

Background: In December 1998, AAA scheme located in ABC district found that in the XYZ village, composed of 100 households, only 50 percent of the households are members of the scheme. (The district average is 75 percent.)

Objective: Increase membership in the village by December 1999 by 25 percent.

Target group: 50 households that are not members of AAA scheme.

Data collection:

- ▲ Village household head breakdown by sex is 90 percent male and 10 percent female, (the average for all villages is 50 percent male and 50 percent female); however, most male household heads work in the city and visit their families only during harvest.
- ▲ Average age of household heads is 40.
- ▲ Occupation: 90 percent of the women (spouses and household heads) are market women.
- ▲ About 99 percent of the women belong to some type of community organization (30 community organizations in total in the village.)
- ▲ Sources of information on health and most trusted source of information: community organizations.
- ▲ Health seeking behavior: 75 percent of consultations are initiated by female members.
- ▲ Cultural aspect: even with a lack of continuous presence of the male household head, he is the authority figure and makes the final decisions concerning his family members.

Communication channels: target/entry point
From our data we can conclude that:

- ▲ The men generally make the financial commitments of a household and will therefore be the ones to decide whether or not to join the scheme, even though they spend most of their time away from the household.
- ▲ The women are the most sensitive to the health needs of the household.
- ▲ The men are difficult to reach directly, but the women can be reached.

Channel(s) selected:

- ▲ Women's groups, traditional chiefs.
- ▲ Major men's events (meeting with folk media presentation) during the harvest time.

Why?

- ▲ Sensitize women to the health benefits of the scheme. Train them to explain it to the men when they return to the household at harvest time.
- ▲ Traditional chiefs are well respected and listened to by all members of the community. They can also help to influence the men in the community.
- ▲ Plan for harvest time: reach the men face to face and get them to sign up then (before they leave again).
- ▲ Give special messages to each group. Men: the financial benefits of joining the scheme. Women: how the scheme helps them get good health care more easily.

In order to achieve the objectives as set out in the marketing plan, scheme initiators design and implement a set of information and outreach activities targeted to increase scheme awareness and hopefully attract members. Box 6.3 provides an example of information campaign activities.

Box 6.3 Information Campaign Activities

Activities	Persons Responsible	Time Table
Activity 1: Meet with community organization leaders to introduce AAA Scheme and possibly attend meetings to present the scheme to the whole group.	Fieldworker	Meet with 30 community organization leaders by end-January 1999. Conduct five general meetings with community organization members by end-July 1999.
Activity 2: Hire two field workers for three days to introduce the scheme to women during house-to-house visits.	Public relations officer or community liaison	By end-January 1999, hire two field workers. By end-February, field workers should have completed work.
Activity 3: Send correspondence and brochures about the scheme to 50 absent male household heads, stressing the financial benefits	Public relations officer or community liaison	By end-February, complete brochure design. By end-March, complete brochure reproduction. By end-April, mail brochures

Information Campaign Budget

	Resources	Costs (in shillings)
Activity 1	▲ Transportation to meet with community organization leaders (2,000 shillings per visit x 30 visits) ▲ Transportation to meet with community organization members (2,000 shillings x 30 visits)	60,000 60,000
Activity 2	▲ 2 field workers x 3 days x 20,000 shillings per day	120,000
Activity 3	▲ Reproduction of 75 brochures x 5,000 shillings per brochure ▲ Mailing of 75 brochures x 1,000 shillings	375,000 75,000
	TOTAL	**690,000**

6.4 Assess Marketing Reports

All organizations must measure the effectiveness of the strategy – are marketing objectives being accomplished? - before investing additional funds, to ensure that the scheme is still operating well financially.

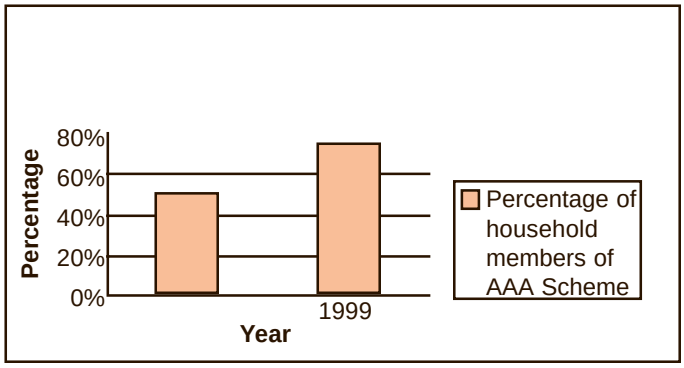
Using the strategy example in Box 6.2, an evaluation is conducted by comparing membership increase to our initial goal of a 25 percent increase by 1999.

Box 6.4: Monitoring Membership

	1998	1999
Number of households	100	110
Number of households that are members of the AAA CBHI	50	83
In percent	50%	75%

Ratios/Graphs: Using data collected in the financial and accounting systems of the scheme, scheme managers can describe trends in membership, premium subscription rates, and other key variables. See Figure 6.1.

Figure 6.1 Percentage of Household Members of AAA Scheme in 1998 and 1999



We can conclude that the AAA marketing has been successful. Membership increased by more than the objective 25 percent (50 households in 1998 and 83 in 1999, an increase of 33/50 = 66 percent).

Once the marketing efforts have been assessed, CBHF scheme managers can decide whether to continue the same marketing strategy with other target groups. Or they may design new strategies for new target groups. For further information on crafting successful marketing efforts, please refer to the following documents:

▲ Business Owner's Toolkit Guidebook, http://www.toolkit.cch.com/text/p02_5421.asp.

▲ Berkowitz., Eric. 1996. *Essentials of Health Care Marketing*. Gaithersburg, MD: Aspen Publishers, Inc.

▲ Else, Bradford. 1999I. *Improving Sustainability through Multi-Disciplinary Financial Management, Chapter 8.* Bethesda, MD: Pathfinder International South Africa Program and Abt Associates Inc.

7. Special Components

In addition to the costing and pricing of health services and the basics of operation, other factors must be considered in the initiation and function of CBHF schemes. These include:

- Community Participation
- Coverage for Poor Communities
- Sustainability
- Data Management

7.1 Community Participation

Community participation is often an effective means of mobilizing resources and finding solutions to economic, environmental, and health problems. Studies find that individuals make better choices about their health when they help design the options. In short, community participation is "when people from the community organize, plan, share tasks with professionals, contribute financially to projects or programs, and help make decisions about activities that affect their lives, programs are more likely to achieve their objectives."[54]

Community participation is central to the success of community health financing schemes. *Figure 1.1* in Chapter 1 shows how community participation in the *management* of a scheme contributes to its success in a variety of ways, such as increased leverage with health providers, an enhanced democratic system, and accountability. But community participation in a CBHF scheme is vital in other ways. If the scheme is managed by a health facility or a private provider, the nature of the community's role changes to some degree (for example, from management and enrollment to enrollment only.)

The next step is to learn the requirements for engaging and involving the community in the operation and utilization of CBHF schemes. "Community participation must be carefully managed in order to be successful, sustainable, and beneficial to the community. Effective community participation requires that managers find ways for the community members to participate in the [scheme]. Managers should help the community establish:

- Clear goals and objectives for their participation;
- Clear responsibilities and functions for working with the CBHF team;
- Specific activities related to the objectives they have set."[55]

Here, the term "managers" can refer to external or non-member entities and those who share management with a facility or provider. Collaboration with local leaders, government officials, and key players from the private sector can increase community interest and access to resources for the scheme. These players are members of the community and their involvement in scheme initiation and operation is important. Not only can they encourage others to participate, but also they might serve in varying capacities such as legal procedures and procurement. Furthermore, given the right context, inclusion of national, regional, or other senior officials in community events such as campaigns and meetings "tells the community that its work is important and that it is valued by the nation."[56] This approach should be used prudently, however, since some communities may feel threatened rather than encouraged by the involvement of government officials.

Table 7.1 below outlines the benefits of community participation and how they are achieved. Please note the difference between the benefits in *Table 7.1* and the "secondary effects" of community participation in *Figure 1.1* of Chapter 1.

[54] Management Sciences for Health. 2000. *Increasing Community Participation.* http://erc.msh.org/chs/tools/increase.htm
[55] Ibid. p.3
[56] Ibid. p.8

Table 7.1: The Benefits of Community Participation[57]

Benefits	How Benefits are Achieved
Increased commitment to CBHF scheme	When residents of a community actively participate in making decisions about health care, they better understand the health and economic benefits of joining the scheme. They also are more committed to strengthening and expanding the program to a wider population.
Additional program resources	In addition to offering their time, community members often bring financial and material resources to the program. For example, existing shops or buildings may be offered to the program part-time at little or no cost.
Increased client motivation	Communities that take an active interest in the progress of a scheme will develop improved ways to motivate non-users to enroll such as having citizen role models advocate for membership.
More rapid program expansion	Community volunteers can help the scheme reach more clients and expand scheme coverage.
Motivates government to include CBHF schemes in health services	In cases where CBHF schemes are not yet accepted as a part of government services, community participation can pressure the government to recognize the need for health care financing schemes.
Better solutions to service delivery problems.	Involving the community in the scheme can lead to a greater awareness of service delivery problems. Often members of the community can suggest appropriate and effective solutions.
More consistent demand for scheme services	Meeting regularly to discuss program operations, complaints, and solutions can build a feeling of community ownership of the program.
More effective planning and management	Involving the community can lead to more effective planning, management, and use of resources for scheme.
Creates a bridge to other populations	Members of the community can serve as a bridge to segments of the community that may be hard to reach through other program channels.

[57] Ibid. p.2 Note: This table was adapted to be applicable to CBHF schemes. Originally designed for family planning programs.

7.2 Coverage for Poor Communities

The issue of coverage for poor communities and for those who cannot afford to pay for health services is complex. CBHF schemes aim to increase access to health care by making it more affordable. It is anticipated that a greater number of poor people will have access to health care as a result of the schemes. However, this does not necessarily mean that the poorest of the poor will benefit from the schemes.

Schemes and their participating health facilities may also offer discounted rates that are lower than user fees in exchange for the greater certainty of resource mobilization through scheme members. Unlike the mutual health organizations of West Africa, where many of the groups began as solidarity movements in which people shared the burden of risk among those of all economic levels, the schemes in East Africa were, for the most part, initiated by the providers. This may decrease the likelihood and willingness of members to subsidize the premiums of those who cannot afford them.

The major method to attract the poor to these schemes has been seasonal enrollment. This approach offers enrollment based on the ability to pay seasonally or at different time of the year. The poor rarely have a steady flow of income; they usually have money at the times of the harvest. Schemes therefore offer enrollment at times when the poor most likely have money and can afford to pay a lump sum premium.

These arrangements do not resolve the problem of the poorest of the poor, who usually have no money other than for their basic day-to-day needs. To do this, some schemes are subsidizing membership to cover the costs of some of the poorest people by charging slightly higher premiums to other members. They hope that if they do in fact succeed in cost recovery, a portion of the margin or profits can be used to cover costs for those who cannot afford the premiums.

Other schemes, such as those run by mission hospitals, use government or donor contributions to help cover the costs of those whom cannot pay.

To identify the poorest of the poor, schemes use exemption mechanisms. One such exemption mechanism, that of the Community Health Fund in Tanzania, is described in Box 7.1.

Box 7.1 Example of an Exemption Mechanism

Community Health Fund, Tanzania

The Community Health Fund (CHF) in Tanzania has developed a system in which communities identify their poorest members, who are exempted from paying the premium and whose services are then financed by government funds and surplus revenues from the scheme. The CHF is a "voluntary, community-based health financing scheme designed to ensure participation of the community both in management of the fund and in the running of public health facilities that serve its members." [58] The CHF chose Igunga district as a pre-test because 1) it could build upon projects supported by the IDA Health and Nutrition Program; and, 2) it is one of the poorest districts in the country. If the pilot was successful in the poorest conditions, it was likely to do as well or better elsewhere.

Thus far, the scheme has done reasonably well. Its "management and administration have been established, membership and the availability of funds have increased, and drugs, supplies, and equipment at health facilities have become available. Residents, both CHF members and non-members, who are aware of CHF, believe it is a good program and that their families and their communities can benefit"[59] from it. If it can function in the one of the poorest districts in the country, and extend health care to the people in that region, CHF will exemplify the goal of CBHF schemes. The scheme is by no means perfect, and numerous issues require attention and adjustment, but the concept of the scheme has been, more or less, successfully operationalized and can serve as an example to other CBHF schemes in the region.

CHF Exemption Procedures for District s[60]

1. An individual applies for exemption at the *kitongoji* (sub-village) level.
2. The village Development Committee discusses the application.
3. If a doubt exists about eligibility, they review the applicant's situation at the meeting to verify the facts.
4. Ward Development Committee discusses and forwards names to CHF Ward Committee.
5. CHF Ward Committee approves and sends names to District Council.
6. District Council purchases CHF cards for approved names.
7. Health facility issues CHF card to those exempted.

The use of exemptions has appeared to work thus far, although the identification of each community's poor can be problematic: the commitment and effort involved for scheme workers in verifying their status and the issue of people not wanting to be labeled "poor" may prove to be difficult. Some schemes in the WCA region have identified the poor through surveys and existing social/community structures such as associations and clubs, where people have common interests or goals. These create some level of solidarity, and provide an environment wherein people are more likely to know each other and

[58] Musau, Stephen N. 1999. *Technical Report No. 34: Community-Based Health Insurance (CBHI): Experiences and Lessons Learned from East and Southern Africa.* p. C-1.
[59] Robles, Andrea, et al.. 1999. *Qualitative Evaluation of the Community Health Fund (CHF) in Igunga District, Tanzania.* Final Version for the Tanzania Ministry of Health. Dar es Salem, Tanzania. p.76.
[60] Robles, Andrea, et al. p.64.

be willing to support each other. This method may also prevent those who *can* afford to pay from claiming they cannot and seeking subsidized or free coverage. Moreover, these structures are bound with the understanding that abuse affects *all* members, and will raise the costs, resulting in higher payments and reduced capacity to support the very poor.

To date, the issue of addressing the needs of those who cannot afford to join CBHF schemes has had limited attention and success. Schemes that are unable to cover the costs of the poor, or whose communities lack the solidarity and organization to cover them, must ultimately rely on the government, donors, or NGOs to cover their health care costs. By mobilizing community resources for health, CBHF schemes relieve the government of some of the burden of health care costs for the population. One desirable result of this would be that the government would therefore be able to use its funds strategically to cover those who truly need assistance. Unfortunately, this system does not necessarily operate as such, sometimes resulting in the complete exclusion of the poorest populations. Governments may set up special "safety net" funds in their own political self-interest during elections, but whether these funds are in fact accessed or used is questionable. This draws attention to the importance of solidarity and community participation of CBHF schemes, as they may provide the only alternative to health care access for the poor.

A more practical approach to covering the poor might be found in targeting specific demographic groups who are considered "high risk" (the most needy in terms of health). These groups include children under five years of age, pregnant women, and the elderly. Since these categories are easily identifiable, support for them is easier to galvanize than for a vague group of people simply labeled as "the poor."

"Indeed, coverage for the poor should be distinguished from coverage of paupers (there is much confusion between the two). In general, most public and mission facilities will not turn away a pauper, and in some countries like Ghana, there is a Paupers' Fund to cover those cases, and the conditions (such as substandard care and/or humiliating means testing) are such that there is little risk of many people abusing it. Incidentally, these same conditions are one reason we should distinguish coverage of the poor from pauper coverage as the object of the CBHI-type schemes is not to detract from the dignity of the poor while seeking to cover them. In fact the problem becomes more manageable once we begin to think in those terms (of specific high risk demographic groups, rather than an undifferentiated mass of poor individuals which includes beggars and paupers as well as those demographic groups). Even where there is no paupers fund, health facilities might build the cost of treating paupers into their prices anyway."[61]

[61] Atim, Chris. March 5, 2000. Personal email communication.

7.3 Sustainability

Sustainability can be defined as "the ability of a …programme to continue providing services to meet the needs of its target population."[62] It may help to point out the difference between development activities in general and those related specifically to health care. Some development activities can be phased out once a specific goal is achieved (such as building a certain number of clinics or schools), whereas the nature of health care requires certain services or activities be maintained indefinitely in order to meet an ongoing or even expanding need. Given this differentiation, this guide uses the following working definition for sustainability:

A health service is sustainable where operated by an organisational system with the long-term ability to mobilise and allocate sufficient resources (manpower, technology, information and finance) for activities that meet individual or public health needs/ demands.[63]

The respective roles of the community and members of the schemes relate directly to the issue of sustainability. If the community is not involved and does not perceive that it has a stake in the scheme's success, it will lose interest, not join, or fail to advocate the scheme, and thereby preclude the participant base necessary to keep the scheme financially sustainable.

Sustainability is a function of numerous key factors, most of which were discussed in Chapter 1. External support is currently a major factor, but apart from this, good management, quality of services, appropriate resource allocation, and effective social marketing play important roles in sustaining a scheme. Without these vital components, schemes lose their ability to recover costs, retain adequate membership, and attract new members. According to the Aga Khan Foundation's "Sustainability Analysis," 10 common factors affect sustainability, they are shown in *Table 7.2.*

The issue of a scheme being sustainable – without external support – is important. Ultimately, sustainability requires the consistent performance of key factors, and, in the case of CBHF schemes, funding is central. Considering how many schemes currently operate with significant amounts of donor assistance, one must question their ultimate sustainability. Most likely, many will remain dependent on external support to some degree for some time. Perhaps seeking sustainability in terms of absolute independence from external support is not realistic, particularly in the early stages of CBHF development. In this light, it is realistic to look at the *level* of sustainability at which schemes operate.

Is 100 percent cost recovery really necessary for a scheme to be sustainable? Should, for example, the costs of purchasing equipment or building a clinic be considered costs requiring recovery? Since these are initial or infrequent investments, perhaps they should not be considered when measuring sustainability. Instead, schemes may want to focus on recovery of *recurrent* costs such as drugs, maintenance, and salaries. Without recovering these costs, a scheme cannot be financially viable and will eventually fail.

[62] Aga Khan Foundation. 1993. *Sustainability Analysis; Module 9 – Facilitator's Guide*. Washington, DC. p.14
[63] Diakonhjemmet International Centre (DiS) and Jimma Institute of Health Services (JIHS). 1997. *Sustainability of Health Structures and Systems in Sub-Saharan Africa: The Ethiopian Case: Studying the Community Health Service in Jimma*. New York, New York: UNICEF. p. 2.

However, while this approach to defining sustainability is more achievable and realistic in the short term, but it does not preclude the need for a scheme to pursue complete sustainability in the long term, since government and donor support is declining and this pattern is anticipated to continue.

The context in which a CBHF scheme is initiated or operates determines its sustainability, as noted in ***Table 7.2***. However, this does not only refer to the social, economic, or political environment, but to the immediate environment, including preparation, and the development of mechanisms and strategies aimed to support and sustain the scheme. The "checklist" of steps needed to make a program sustainable ***(Table 7.3)*** reflects the importance of these factors. Both tables provide a way to gauge the extent to which a scheme is (or should be) sustainable. Many schemes may begin with a short-term goal of viability, but this must grow into an objective beyond survival, into the ability to sustain itself at a given level, with a vision to be completely sustainable.

Table 7.2 Sustainability Factors[64]

Factor	Significance
1. Target population size, composition and distribution.	There is a corresponding change in the size of schemes when the general population increases or decreases.
2. Target group knowledge, attitudes and practices (KAP)	People need to know enough about the schemes and be motivated to demand essential services. Otherwise the demand will be insufficient to improve health and sustain the scheme.
3. Service quality	Low quality reduces utilization of services, while good quality attracts members and use of services.
4. Management Support	A well managed scheme operates smoothly, effectively and efficiently.
5. Organizational capacity	Collaborating agencies must remain strong. Strong organizations can supplement one another's strengths and cover for their weaknesses.
6. Political commitment	Support from influential people is essential to ensure that the scheme is promoted, respected, recommended and receives financial support.
7. Personnel resources	Skilled, trained staff enhance quality, morale and costs. The role of key figures is also important in their relationship to political/financial supporters.
8. Program revenues	These are needed to operate the scheme, support staff and pay for space, drugs, equipment. Surpluses can be reinvested to expand services, improve quality, cover the poor.
9. Program expenditures	Costs have to be kept lower than revenues for a scheme to survive.
10. Environment	Factors beyond the control of a scheme – economic, political, infrastructure – can affect its success and operation.

[64] Aga Khan Foundation. This table was adapted from Annex A.

Table 7.3 Checklist for Making Your Program Sustainable[65]

✔	Steps to a Sustainable Program
	Make a strategic plan for the organization.
	Articulate a clear organization mission and strategies.
	Develop innovative leadership.
	Recruit qualified and talented staff and reward them for excellent job performance.
	Understand the client.
	Provide quality service.
	Market services effectively.
	Develop a financial management system that provides information to monitor revenues earned, the cost of services, and revenues not collected.
	Develop policies that allow managers the flexibility to contain or reduce costs. While maintaining quality: ▲ Personnel: job categories, performance, hours, skills; ▲ Contraceptives and commodities: price, source, type, quantity.
	Provide rapid and accurate feedback to clinic and program managers on financial performance.
	Find a balance of service and financial goals that achieves the organization's mission.
	Institute incentive compensation systems that motivate practitioners and support personnel to provide quality services and contain costs.
	Hire reliable and respected service providers at the community level.
	Develop mechanisms for using revenues at the sites where they are generated.
	Develop strategies for cost-containment (a specific component of this in health insurance is referred to as "risk management" – see Chapter 4.)
	Develop new strategies for generating revenue.
	Develop joint public and private ventures and community participation to reach the poorest and high-risk populations.
	Create cross subsidies of products and services to support the poor, the hardest-to-reach, and the high-risk groups.

[65] Management Sciences for Health. *The Family Planning Manager's Handbook*. http://erc.msh.org/fpmh_english/chp10/chklist_1.html – adapted and modified.

7.4 Data Management

The issue of data management relates directly to key elements of a scheme's success: cost recovery, accountability, efficiency, and sustainability. To date, data management has differed per scheme and has therefore had varying results. Several key components make up a good data management system.

Ideally, data for schemes should be computerized in order to maximize efficiency and accuracy, and have the capacity to quickly manipulate large quantities of data. Since this may not be possible in all schemes, it is crucial that the data is updated on a regular basis in order to avoid miscalculation and fraud. The 1999 PHR CBHI Lessons Learned report highlights the importance of computerized data management, noting that some of the schemes evaluated needed to seek a computerized system, because, they were growing too large and complex for manual data management. "Problems with data management are a threat to the survival of these schemes, because, without a sound information base, it will be impossible to make informed decisions."[66]

Some schemes resist the idea of computerized systems for a number of reasons, including expense, aversion to change, discomfort with the technology, and complexity. Each reason carries merit but it has become increasingly clear that schemes with computerized systems are able to do far more than those without. First, a computerized system can easily modify, store and update information for schemes with large memberships. Second, it can tabulate information using existing data that would take much longer if done manually. The calculations can then be used for decisionmaking, and ultimately, to craft a more efficient scheme.

Schemes that do not possess a computer due to a lack of financial resources must be even more diligent in their data management, because the potential for inaccurate calculations and falling behind in record-keeping is greater, especially with the expansion of membership. Thus, large schemes need to make acquisition of a computer a goal. This does not mean that schemes with computers are inherently efficient: *the system will be only as efficient as those who manage it*. If up-to-date data entry into a computer is neglected, the system will not serve its purpose or benefit the scheme. This might require initial technical assistance in the operation of computers and in maximizing their potential to maintain records and increase efficiency.

Box 7.2 Key Elements of Data Management

Accuracy – Can the data be accurately tabulated and calculated?

Flexibility – Can the data be easily changed, updated, and adapted?

Efficiency – Is the system simple to use and maintain?

Security – Is the data located and stored in a safe place?

Practicality – Can the management mechanism be used in your environment?

[66] Musau, Stephen, *Technical Report No. 34: Community-Based Health Insurance (CBHI): Experiences and Lessons Learned from East and Southern Africa.* Bethesda, MD: Partnerships for Health Reform Project, Abt Associates Inc., p.22

Finally, data collection and management functions – whether manual and computerized — must be performed by reliable and trustworthy persons. There have been cases in which the person designated to manage and guard the data lost or stole it, rendering the scheme and its management inefficient, vulnerable, and with a weakened reputation. One scheme placed data into the hands of several key figures, to ensure that it was not tampered with and that it could be recovered should it be stolen or lost.

7.4.1 CBHF Toolkit

The toolkit section of this manual provides detailed descriptions of several existing software programs which can be used (or are being used) to assist schemes with data management. They range in complexity and focus, providing a variety of options for schemes interested in computerizing their systems or for schemes interested in changing their current ones.

Table 7.4 provides some examples of how existing schemes are using the software programs.

Table 7.4 Examples of Data Management Activities in Selected Schemes

Types of Data	Software Tool/Program	Example of Application at Scheme
Membership records	Access	Nkoranza Health Insurance Scheme in Ghana Due to large volume of membership, scheme managers designed a database program using Microsoft Access to record membership data. The database includes information on members' demographic information, diagnoses, billing and premium status, as well as information on recruitment efforts by field workers. The Access program allows for entry of limited financial information.
Health service costs and revenues	Health Insurance Membership, Claims and Information System (HIMCIS) Oracle system	Chogoria Hospital Insurance Scheme in Kenya Kisiizi Health Society/Nsambya Scheme in Uganda Both schemes are located at mission hospitals. The software programs are designed to help the hospital managers track information on memberships and to easily access and report on service delivery data and claim information. These programs attempt to integrate membership information with existing finance and accounting systems at the respective hospitals. This presents challenges to resource-poor institutions and emphasizes the need for trained operators and personnel.
Accounting and financial management	Quicken SUN	These systems are potential tools for new or developing schemes. Both software programs are widely used in businesses and have potential to be adapted by CBHF schemes for management and reporting.

8. Monitoring and Evaluation

Monitoring and evaluation are continuous processes that enable a CBHF scheme to compare its activities and results with its objectives, and take action to correct weaknesses and validate strengths.

The processes answer the question:

“Are we doing the right things to get where we want to go?”

At the end of this chapter you will:

▲ Understand the conditions for effective monitoring and evaluation.

▲ Gain skills in using various indicators of efficiency and effectiveness of CBHF operations.

8.1 Definitions

▲ *Monitoring* refers to ongoing efforts to make sure that the scheme runs in accordance with the provisions fixed beforehand (in the business plan) or according to norms commonly accepted in the sector of activity.

▲ *Evaluation* is a periodic, more in-depth assessment, either during the course of or at the end of the activity or exercise. Evaluation determines whether and how the scheme's objectives have been achieved. However, it is important to bear in mind that achievement of some of the objectives may not be immediately evident. For example, the impact on the health status of a community may take anywhere from two to five years before clear evidence of impact can be seen.

In order to ensure effective implementation and operation of CBHF schemes, program monitoring and evaluation components should be included in the original scheme design and structure. "The results of program monitoring are indispensable for program management because they inform the manager whether the program is on track, where the problems are, and what unexpected results have occurred. Evaluation of the processes used in implementing the program allows for mid-course corrections, Indeed the type of program monitoring […] is integrally linked to management information systems (MIS), underscoring the close link between monitoring and management."[67]

8.2 Conditions for Effective Monitoring and Evaluation

A scheme must meet several conditions to ensure the monitoring and evaluation exercises are as precise and complete as possible. These are:

▲ Availability of quality financial information and other management data,
▲ Transparency, and
▲ Availability of performance indicators.

Each of these conditions is discussed in detail below.

8.2.1 Quality Financial Information and Other Management Data

The financial information and data should be:

▲ **Reliable.** Can management and other users of the data be confident when using the data to make decisions? What is the possibility that the data contains material inaccuracies?
▲ **Relevant.** The data provides information that is relevant to the decision-making needs of management.

[67] Bertrand, Jane, Robert Magnani and Naomi Rutenberg. 1996. *Evaluating Family Planning Programs.* New Orleans, Louisiana: The Evaluation Project, Carolina Population Center. p. 6.

▲ **Complete.** No significant data has been left out in the recording of transactions.
▲ **Rapidly available.** Information is available on time. Out-of-date information is no good for making current decisions.

Chapter 5 stresses the importance of recording data in a timely fashion and contains more information on data management.

8.2.2 Transparency

Transparency is an important requirement not only for effective monitoring and evaluation, but also for maintaining the confidence of members.

▲ A well-functioning information system should allow all pertinent information relating to the social and financial objectives of the scheme to be made available.

▲ In the case of CBHF schemes where cash transactions with members are most common, it is important to set up clear and "tight" cash management monitoring and evaluation tools; it is also very important for members to be aware of the policies regarding cash. (Who can collect it? What is the required documentation?)

▲ The scheme should design some self-evaluation forms indicating the immediate objective, verifiable indicators, where the relevant information can be obtained, who is responsible for their production, how they will be interpreted, etc. This way, the source of all financial information is clearly defined and responsibilities can be determined.

▲ It is often necessary to develop some communication tools and visual aids adapted to the level of understanding of members; in other words, the members should be provided with financial information they are able to understand and analyze.

8.2.3 Types of Performance Indicators

Indicators can be classified into four categories as follows:

▲ Institutional — show how well the scheme is functioning as a social movement;
▲ Efficiency and effectiveness of service delivery — analyze clinical and other services rendered to the members;
▲ Financial — give an idea of the financial health of the scheme; and,
▲ Impact on health status.

It is necessary to consider all of these categories together to be able to obtain a complete picture of the scheme's performance. None of them considered in isolation is sufficient.

8.3 Examples of Indicators by Type

8.3.1 Institutional Indicators

The institutional indicators provide information on the vitality of the scheme and on its impact. All these indicators are obtained from the database and financial statements (see Chapter 5.)

▲ The number of members;

▲ The rate of new registrations: This is the relationship between the number of new adherents and the total number of members. It enables an assessment of the relative growth of the scheme over the course of a given period; it should be compared across years of operation.

Example:
A scheme's total membership was 500 in 1997 and increased to 600 members in 1998. The total number of new adherents is therefore 100.
The rate of new registrations is: 100 / 500 = 20%

▲ The *rate of enrollment into the scheme* of the target population. This is the ratio between the number of members and the total population of the target group within which the scheme operates; it should be compared across years of opera tion.

Example:
A scheme's total membership was 500 in 1997. The target population is 1,500 (the population of the district).
The rate of penetration of the target population is: 500 / 1,500 = 33%

▲ The scheme should also report the number of meetings held, attendance rates by members, results of any votes related to decision making, and any other indicator that shows members' involvement in the organization.

▲ The drop-out rate. How many members are failing to renew their membership every year?

8.3.2 Indicators of Efficiency and Effectiveness of Service Delivery

▲ The *rate of attendance of medical facilities by members,* or *usage rate* (one of the principal objectives of the scheme is to improve the access of its members to health care). The evolution of the rate of attendance at health facilities by the beneficiaries compared to other users is an interesting indicator of the performance of the scheme. However, a rising rate of attendance could also signify over-consumption, an epidemic, or bad quality health care, so it is important to investigate the factors causing changes in this rate.

▲ The trend of *health care expenses per beneficiary per health care category.* It enables the scheme to find out which expenditure areas are increasing most rapidly; it is also useful for preparing the budget (see Chapters 4 and 5).

▲ The *morbidity rate* among members. The morbidity rate is the ratio of the number of cases of a given illness in a given population and the total size of that population. It can be compared with the data available for the whole population of a region, where such statistics are available. Decline in the morbidity rate among scheme members may signify an improvement of the health care cover.

▲ The *mortality rate* among members (ratio between the number of deaths among members and the total number of members in a course of a given period.) It is interesting to compare the rate of death among scheme members to the average mortality rate of the population concerned (of a region or country), in order to measure the impact of membership of the scheme on health in general.

▲ The level of compliance with treatment protocols/guidelines, use of essential drug lists, and prescriptions for members versus non-members are indicators of the impact of the scheme on the quality of health care.

8.3.3 Financial Indicators

The financial monitoring indicators are all in the form of ratios. These financial ratios enable a good assessment of the financial health of the scheme, i.e., its capacity to meet its obligations to members and third parties at any given moment as well as its efficiency in revenue collection.

Many financial ratios are used by organizations in general. Those ratios most appropriate to CBHF are the following:

▲ the liquidity ratio
▲ the solvability ratio
▲ the ratio of coverage of expenditures
▲ the ratio of dues to expenses
▲ the ratio of operating costs to income
▲ the rate of payment of premium dues
▲ the percentage of members who are not in arrears

The principal sources of data used in the calculation of the financial ratios are the statement of income and expenditure or income statement and the balance sheet, for the same period/end date. These ratios are explained below.

Liquidity Ratio

The liquidity ratio shows the ability of the scheme to pay its liabilities as they fall due. It compares its current assets (cash, short-term investments, inventories [stock], accounts receivable [debtors] and other assets that management intends to convert into cash within a year) with its current liabilities. Current liabilities are those debts that must be paid off within a year, for example, payments to suppliers of goods and services (creditors or accounts payable).

Box 8.1 Formula for Liquidity Ratio

The liquidity ratio = Current assets (or short-term assets) / Current liabilities

If the ratio is higher than 1, it signifies that the scheme is in a position to defray its debts to the health care providers immediately if need be.

Example: based on figures from the XYZ CBHI Balance Sheet in section 5.10.4 of Chapter 5:

Current assets: 320,000
Current liabilities: 120,000
Liquidity Ratio: 320,000 / 120,000 = 2.66 ➨ Higher than 1 ➨ Good sign

Solvability (Solvency) Ratio

This relationship indicates the capacity of the association to honor its debts to third parties through redeeming/selling its assets, without recourse to borrowing. This ratio should be equal to or higher than 1 for sound financial management. When the ratio is less than 1, the organization is termed "insolvent."

Box 8.2 Formula for Solvency Ratio

The solvability ratio = Assets / Liabilities

Example: based on figures from the XYZ CBHI Balance Sheet in section 5.10.4 of Chapter 5 :

Total assets: 580,000
Total debt (short-term liabilities plus long-term debt): 320,000
Solvability Ratio: 580,000 / 320,000 = 1.81 ➨ Higher than 1 ➨ Good sign

Ratio of Coverage of Expenses

Usually, the accumulated reserves must correspond to the average expenses for three to six months. The objective is to ensure sufficient stability to be able to meet exceptional expenditures arising from an epidemic, for example.

The ratio of coverage of expenses = Reserves / monthly expenses

Example: based on figures from the XYZ CBHI Balance Sheet in section 5.10.4 and Income Statement in section 5.10.3 of Chapter 5; assumes that the financial statements are for the same periods:

Reserves: 100,000
Monthly expenses: 563,000 / 12 months = 46,916
Ratio of coverage of expenses: 100,000 / 46,916 = 2.13 ➨ Lower than 3 ➨ Corrective action needed

The Ratio of Subscriptions to Expenditure

This ratio looks at the sufficiency of subscriptions to cover the expenditures; it should be equal to or higher than 1.

The ratio of subscriptions to expenditure =Total amount of dues / annual expenditure

Example: based on figures from the XYZ CBHI Income Statement in section 5.10.3 of Chapter 5:

Dues and subscriptions: 325,000 + 287,000 = 612,000
Annual expenditure: 563,000
Ratio of subscriptions to expenditure: 612,000 / 563,000 = 1.087 ➨ Higher than 1 ➨ Good sign

Ratio of Operating Costs to Income

Operating costs include all the costs related to the administration and management of the scheme. As a general rule, this ratio should not exceed 5 percent.

The ratio of operating costs to income = Operating costs / income

Example: based on figures from the XYZ CBHI Income Statement in section 5.10.4 of Chapter 5:

Operating costs: 118,000
Income: 650,100
Ratio of operating costs to income: 118,000 / 650,100 = 18.15% ➨ Higher than 5% ➨ Corrective action needed

Ratios of Efficiency in Collecting Dues

The *rate of payment of dues* (ratio between the amount of dues actually collected to the total amount expected during a given period.) A rate nearer 100 percent indicates active participation and enhances the scheme's ability to pay for the services it offers. It may also signify the attainment of the objectives of a campaign of sensitization and promotion.

The *percentage of members who are not in arrears* with their dues: ratio between number of members who have paid their dues and the total number of members. It is also interesting to see a breakdown of this ratio giving the proportion of members in arrears in terms of the number of months of arrears.

8.4 Evaluation Process

Given the set of indicators identified above, CBHF scheme managers and staff can undertake a comprehensive, periodic review of the performance of the scheme using some of these indicators. Monitoring and evaluation activities can contribute "information as input to management and decision-making through such activities as:

- ▲ assessment of progress in program implementation;
- ▲ identification of factors contributing to observed program deficiencies and testing of alternative corrective actions;
- ▲ determination of the degree of impact that the program has had in the target population in terms of influencing relative outcome; and
- ▲ assessment of the level of program effectiveness and efficiency."[68]

The overall objective of these monitoring and evaluation activities is to provide CBHF managers with detailed, credible information upon which to base management decisions. Ideally, new or emerging schemes should incorporate into their program design an evaluation section, specifically designed to provide managers with clear, concrete information upon which to base decisions in the future. Existing schemes should undertake regular evaluations to "fine tune" their operations and better inform management decisions. As mentioned earlier in this chapter, an evaluation plan can help CBHF managers and staff to structure continuous monitoring and evaluation activities and to derive reliable information from these activities. Using the suggested outline in Box 8.1, CBHF schemes can undertake appropriate steps to produce the desired level of evaluation.

Box 8.3 Prototype Outline of Evaluation Plan[69]

I. Scope of the Evaluation: ("What")
   - A. Goals and Objectives of the Program
   - B. Objectives of the Evaluation

II. Methodological Approach ("How")
   - A. Indicators
   - B. Data Sources

III. Implementation Plan ("Who, When, With What Funds")
   - A. Individuals Responsible for Different Parts of the Evaluation
   - B. Timetable of Evaluation Activities
   - C. Budget (if appropriate)

IV. Dissemination and Utilization of Results ("Why")
   - A. Audience
   - B. Format and Content

[68] Bertrand, Jane and Robert Magnani, and James Knowles. 1994. *Handbook of Indicators for Family Planning Program Evaluation.* Chapel Hill, NC: The Evaluation Project, Carolina Population Center. p. 89.
[69] Adapted from Bertrand et al. 1996.

Using information presented in previous chapters on a broad range of data collection activities, CBHF scheme managers can select specific indicators (such as those listed earlier in this chapter) and begin to assess the impact and trends of program operations based on these indicators. No program should use all of the indicators listed. "In fact, for routine monitoring purposes, it is desirable to select a few relevant indicators that are easy for staff to collect, interpret and discuss. Special studies can then be conducted to evaluate how programs are doing in areas of particular interest to [CBHF] program staff (staggered to minimize the research burden on the organization.)"[70]

Once CBHF staff and individuals responsible for carrying out the evaluation have compiled reliable data on select indicator performance, the "evaluation results should be fed back into the system, to program managers and service providers whose work is reflected in the evaluation."[71] The evaluation report should present to CBHF managers not only the results of the evaluation but also an interpretation of the findings and their relevance to scheme operations. Ideally, evaluators should discuss findings and results with key decision makers in order to ensure clear communication and understanding of the key points of the evaluation.

For more information on designing and implementing monitoring and evaluation processes, please refer to the following resource:

Rossi, Peter H., and Howard E. Freeman, 1993. *Evaluation: A Systematic Approach.* Newbury Park, California: Sage Publications, Inc.

[70] Bertrand et al. 1994. p. 13
[71] Bertrand et al. *Evaluating Family Planning Programs.* p.111.

Annex A: Standard Baseline Survey Questionnaire

PILOTING OF COMMUNITY FINANCING SCHEMES - BASELINE SURVEY - LUWERO DISTRICT
UGANDA

HOUSEHOLD QUESTIONNAIRE

HEAD OF HOUSEHOLD OR SPOUSE OF HEAD OF HOUSEHOLD

Interviewer's note:

Start the interview with presenting yourself. Read the information below to the respondent.

Information to the respondent:

The Ministry of Health is interested in the feasibility of developing community-based health financing or insurance arrangements. Through the Health Planning Department of the Ministry of Health, the Child Health and Development Centre, a research and training unit attached to Makerere University, was requested to undertake a survey before the trial of the two schemes by community groups in Luwero. This survey will be conducted in the communities of the two sub-counties where Kasana Health Centre and Zirobwe Dispensary/Maternity Unit are located. We would like to get information about how often people are ill, what health care providers people seek and how much money they spend on health care in this area. Furthermore, the two proposed schemes will also be explained thoroughly to you in order for you to decide how you feel about them, and which one you would prefer. The survey results will be presented to Luwero District Administration, the sub-county administration, and to members of the community groups/societies living around the two health units. Participation in the survey is voluntary and household members have the right to refuse to participate. The survey is confidential and is not part of a tax assessment.

Identification

Date of Interview	[__/__/19__]	
Interviewer's Name	_____	
Language of Interview	_____	[ ]
District	_____	[ ]
Sub-county	1. Kasana 2. Zirobwe	
Parish	_____	
LC1	_____	
Name of community group/society	_____	

Respondent 1. Head of household [ ]
2. Spouse of head of household

Sex of Respondent 1. Male
2. Female

Age of Respondent _____

Result of Interview 1. Completed [ ]
2. Incomplete (reason)_____

Household Characteristics

Information to the Respondent
We would like to know more about members in your household. The term household can be confusing, but in this survey it refers to a group of people eating from the same pot. In some situations this may include multiple adults, not always related by marriage or blood. Thus if a man has two wives, and the wives are not eating from the same pot, then they have separate households and they should not be mentioned below.

1. How many members does this household have? Number_____ [ ]

2. How many adults, who are 18 or above, are there in this household? Number_____ [ ]

3. Is the head of the household male or female? ***Respondents' note****: If a woman is single or a widow, then she is the head of the household.*
1. Male
2. Female [ ]

4. Who are the adults, 18 or older, who are members of this household?
(Probe: husband, wife, grandmother, grandfather, son, daughter, in-laws, friend, etc.)

5. How many children, who are under the age of 18, are living in this household?
Number _____ [ ]

6. How many children are five years old or younger? Number_____ [ ]

7. How many children are between five and 18 years old in this household?
Number_____ [ ]

8. How many of the children who are between five and 18 go to school?
Number_____ [ ]

9. How many children, who are under the age of 18, are your biological children?
Number_____ [ ]

10. Who are the non-biological children (under the age of 18)? (Probe: orphans, grand-children, niece, nephew, etc.)

11. Marital Status

(a) What is your marital status? [ ]

1. Single
2. Married
3. Separated
4. Divorced
5. Widowed
6. Other ***(specify)***_____

(b) If you are married, are you in a monogamous or polygamous union? [ ]

1. Monogamous
2. Polygamous

12. What is your religious affiliation? [ ]

1. Catholic
2. Protestant
3. Muslim
4. Seventh Day Adventist
5. Traditional
6. Other ***(specify)***_____

13. What is the highest level of school you have attended? [ ]

1. None
2. P1-P4
3. P5-P7
4. Secondary ***(specify level)***_____
5. Other ***(specify)***_____

14. If you are married, what is the highest level of school your spouse has attended? [ ]

1. None
2. P1-P4
3. P5-P7
4. Secondary ***(specify level)***_____
5. Other ***(specify)***_____

Socio-economic Factors

Respondents's note: We are interested in all economic activities undertaken by members of this household. We are asking these questions in order to find ways of helping really poor households. This study is confidential. It is not part of a tax assessment.

15. Agricultural production

(a) Does this household have agricultural production?

1. Yes 2. No [ ]

(b) If yes, how much did you harvest during 1998?

Crops Grown	Amount per year **(estimate)**	When do you harvest these crops? *Tick for each month*												Do you sell or eat what you have harvested? Indicate the number. 1. Sell some 2. Sell all 3. Eat all
		Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	
1. Bananas	bunches													
2. Coffee	tins													
3. Beans	bags													
4. Maize	bags													
5. Millet	bags													
6. Sorghum	bags													
7. Irish potatoes	tins													
8. Sweet potatoes	tins													
9. Peas	bags													
10. Other ***(specify)***														

16. Livestock

(a) Does this household rear livestock?

1. Yes
2. No [ ]

(b) If yes, how many animals do you own?

Type of livestock	**Number**
1. Cows	
2. Pigs	
3. Goats	
4. Chickens	
5. Other ***(specify)***:	
6. Other ***(specify)***:	

17. Other sources of income

(a) Does this household have any other sources of income, e.g., rental of house, tailoring, trading, etc.?

1. Yes
2. No

(b) If yes, what other sources of income does this household have? Probe: rental of house, contributions from relatives, tailoring, building, mat making, brewing, trading, etc.
1.

2.

3.

4.

5.

(c) If yes, how much on average does this household earn on these other sources of income per month? ***Respondent's note:*** *Remember, this is* ***not a tax assessment****. We would like to know approximately how much a household earns in order to find ways of helping the poorest with paying for health care. We are not asking for an absolute figure, only a range of income. You do not have to answer if you do not want to!*

1. between 0 and 5,000/= per month
2. between 6,000/= and 15,000/= per month
3. between 16,000 and 30,000/= per month
4. between 31,000/= and 50,000/= per month
5. between 51,000/= and 100,000/= per month
6. more than 100,000/= per month
7. Do not wish to answer

18. Housing

Interviewer's note: *Base your answers on your observations rather than the statements of the household. If there are several houses on the household compound, record only the data for the main house.*

(a) What is the building material of the walls of the house? [ ]

1. Pole with mud
2. Unburned bricks
3. Burned bricks
4. Cement blocks
5. Other ***(specify)***_____

(b) What is the building material of the roof of the house? [ ]

1. Grass/banana leaves
2. Iron sheets
3. Tiles
4. Other ***(specify)***_____

(c) Are the walls of the house plastered or not?
1. Plastered [ ]
2. Not plastered

(d) Is the kitchen separate from the room in which you sleep?
1. Yes [ ]
2. No

(e) What type of mattress do you have?
1. Mat [ ]
2. Grass
3. Cotton
4. Sponge

19. Other assets
(a) Does anybody in this household own a radio or a radiocassette player/tape recorder?
[ ]
1. Radio
2. Radiocassette player
3. Both a radio and a radiocassette player
4. Neither
(b) Does anybody in this household own a bicycle? [ ]
1. Yes
2. No
(c) Does anybody in this household own a motorbike? [ ]
1. Yes
2. No
(d) Does anybody in this household own a car? [ ]
1. Yes
2. No

20. Health care background
(a) Have any members of this household had any experience or training in providing any type of health care?
1. Yes 2. No [ ]

(b) If yes, how many household members have experience or training in providing health care? Number _____ [ ]

(c) If yes, what type of experience or training does this person or these persons have? Probe: herbal healer, traditional birth attendant (TBA,) community health worker (CHW,) medical training, other type of training. Specify for each household member who has experience/training.

History of Chronic Health Condition

Interviewer's note: *Chronic health conditions include long-lasting or recurrent health problems that cause impairment or disability. They may be caused by injury with permanent damage or slow healing or illnesses. Long-lasting or chronic usually means a condition that is present longer than two to three months, i.e., longer than it usually takes a broken bone or wound to heal normally.*

21.(a) Does anybody in this household have a long-lasting or recurrent health condition, e.g., hypertension, diabetes, HIV/AIDS, peptic ulcer, mental illness, asthma, or others?
[ ]
1. Yes
2. No

(b) If yes, how many members of this household have chronic diseases? Number____
[ ]

(c) What type of chronic health conditions does this or do these household members have?

	Sex of the person with chronic disease 1. Male 2. Female *Interviewer's note: Indicate number*	Age of the person with chronic disease	Type of Chronic Health Condition 1. Diabetes 2. Hypertension 3. HIV/AIDS 4. Peptic ulcer disease 5. Rheumatic diseases (joint/backache) 6. Mental illness 7. Pulmonary tuberculosis 8. Other chest diseases, e.g., asthma 9. Ear/nose/throat diseases (not acute) 10. Other ***(specify)*** ***Interviewer's note: Indicate the number.***
Person 1			
Person 2			
Person 3			

Hospital/Clinic Admissions within the Household during the past year

22 (a). Was anybody in this household admitted to the hospital or clinic during the past year?

1. Yes
2. No ***(go to next question)***

(b) If yes, how many members of this household were admitted during the past one year?
Number _____ [ ]

(c) Age and sex of the person admitted, for what illness, where and how much was spent on treatment and transport?

Person	Sex 1. Male 2. Female	Age	Type of illness	Name of the hospital	How much was spent in total on...	
					Treatment and medicine	Transport
Person 1						
Person 2						
Person 3						

Deliveries within the Household during the Past Year

23 (a). Did anybody in this household deliver a baby during the past one year? [ ]

1. Yes
2. No ***(go to next question)***

(b) If yes, how many women in this household delivered during the past year?
Number_____ [ ]

(c) Where did the person deliver, and how much was spent on treatment and transport?

	Where did the woman deliver? *Probe: at home, TBA, Kasana/Zirobwe Health Centre, clinic, maternity home, etc*	Was the delivery 1. Normal 2. Complicated	How much was spent in total on...	
			Treatment and medicine	Transport
Woman 1				
Woman 2				
Woman 3				

30-Days History of Household Illness

24 a). Has any household member had any type of illness within the past 30 days (month of .....1999)? [ ]
1. Yes ***(fill in the Illness Episode Form on next page)***
2. No ***(Stop the interview and thank the respondent for participating in the survey!)***

b) If yes, how many household members were ill during the month of ..... 1999?
_____ [ ]

ILLNESS EPISODE FORM

Interviewer's note: If several persons in the household have been ill in the past 30 days, fill in one illness episode form per person so that you deal with questions related to one person at a time.

Read out Respondent's Note: I am going to ask some questions related to the person who had been ill. If more than one person had been ill within the past month, we will deal with one person at a time. Therefore we will start with the person who had been ill first.

1E. Sex of the household member who was ill? 1. Male [ ]
2. Female

2E. Age of the household member who was ill? Number_____ [ ]

3E. What type of illness and/or symptoms occurred? ***Interviewer's note: Let the interviewed person tell you the symptoms. Do not read the options. If several symptoms have occurred at the same time, circle all of them.***

1. Diarrhoea [ ]
2. Vomiting [ ]
3. Abdominal pain [ ]
4. Fever/malaria [ ]
5. Cough [ ]
6. Runny nose [ ]
7. Joint/bone pains [ ]
8. High blood pressure/palpitations [ ]
9. Paralysis/nerve problem [ ]
10. Rash/swelling/skin problem [ ]
11. Headache
12. Injury ***(specify)***_____
13. Other ***(specify)***_____

4E. What was the duration of illness? **Fill in the best option.** [ ]
_____day/days
_____week/weeks
_____month/months
_____still ill. If still ill, when did this person fall ill? Date_____

5E. Where was treatment sought and how much was spent on treatment and transportation to and from the health care provider?

Interviewer's note: Below is a list of different sources of health care. After you have indicated the name of the health care provider, we would like you to tell us what type of provider this is. Indicate the code.

Source of Treatment:

1. Herbal healer
2. TBA
3. CHW
4. Drug shop/pharmacy
5. Private clinic
6. Kasana/Zirobwe
7. Other Govt Unit *(specify)*_____
8. Other (*specify the name)*_____
9. No treatment was sought

(a) Where did you seek care? Indicate the name of the health care provider. List them in the order you visited them.	*(b) What type of health care provider is this? Use the codes above!*	*(c) How much was spent on treatment and medicine?* ** if service was free, indicate FREE* ** if payment was made in kind, indicate the amount and items traded, e.g., ONE CHICKEN*	*(d) How much was spent on transport to and from where treatment was sought? Indicate the total amount.* ** if transport was free, indicate FREE* ** if person went by car, estimate fuel expenses* ** if person went with boda-boda (local transport), indicate how much was spent*
1.			
2.			
3.			
4.			
5.			
6.			
Total amount spent to be filled by researcher			

6E. Which person within the household took the decisions of where and when to go for treatment? Describe for each provider.

7E. Cash for health care

(a) Was cash used to meet the expenses during this illness? [ ]

1. Yes
2. No ***(go to next question)***

(b) If yes, did you have cash ready to pay for the health care? [ ]

1. Yes ***(go to next question)***
2. No

(c) If you did **not** have cash ready, what did you do to pay for the health care? [ ]

1. Sale of crops
2. Sale of raw materials, e.g. bricks
3. Sale of land
4. Sale of livestock
5. Sale of other assets ***(specify)***_____
6. Labour for someone
7. Short-term borrowing from relative or friend
8. Other ***(specify)***_____

8E. Information about Kasana/Zirobwe Health Centre/Dispensary

(a) Did the sick person seek treatment at this unit? [ ]

1. Yes 2. No

(b) If **YES**, why did the sick person seek treatment at this particular unit? *Explain.*

(c) If **NO**, why was treatment not sought at Kasana/Zirobwe? ***Interviewer's note****: Do not read the answers to the respondent, but use their options as probes. Circle the suitable answers.*

1. The reason for seeking health care was minor and did not need health unit/ hospital treatment.
2. There is lack of medicine at the unit/hospital.
3. There is lack of equipment/or qualified staff at the unit/hospital.
4. The staff is rude and unhelpful.
5. Financial reasons - could not afford paying the bill.
6. Limited opening hours at the hospital.
7. Distance - Kasana/Zirobwe is too far away.
8. Referred to other hospital.
9. Prefers other health care providers.
10. Other reason *(specify)*_____

THANK YOU FOR PARTICIPATING IN THIS SURVEY!

HEALTH UNIT QUESTIONNAIRE

FORM NO: [ ]

Identification

District Luwero
Sub-county [ ]
Parish _____

LC1 _____
Name of Unit 1. Kasana Health Centre
2. Zirobwe Dispensary/Maternity Unit
Type of Unit 1. Government [ ]
2. NGO
If NGO, indicate its name _____

Date of Interview [_/_/19_]

Interviewer's Name _____

Language of Interview _____

Title of Person Interviewed _____

Results of Interview 1. Complete [ ]
2. Incomplete: ***indicate reason***_____

FORM NO:[ ]

General information about the Health Unit

1. What is the **catchment population** of this health unit? _____ [ ]

2. What **type of services are offered** by the health unit? (Circle!)
   1. Immunization
   2. Family planning
   3. Antenatal care
   4. Delivery
   5. General curative care
   6. Other ***(specify)***_____

3. Type of **staff** working at the health unit

Type of staff	Number

4. **Physical condition of the health unit**

(a) Is the main building generally in good repair? [ ]

1. Yes
2. No

(b) In the main building are any of the walls, floor(s), roof(s) in need of maintenance or repair? [ ]

1. Yes
2. No

(c) Are all rooms clean? [ ]

1. Yes
2. No

(d) Is there a latrine for patient use? [ ]

1. Yes
2. No

(e) Is the patient latrine clean and useable? [ ]

1. Yes
2. No

5. **Health Unit Management Committee (HUMC)** **FORM NO:[ ]**

(a) Is there a Health Unit Management Committee? [ ]

1. Yes
2. No

(b) How many times did the HUMC meet during the past year or 1998/9?_____

(c) What are the roles/tasks of the HUMC?

6. **Drug kits**

(a) How many drug kits does this unit receive?_____ [ ]

(b) Do the drug kits last during the intended three months? [ ]

1. Yes
2. No

7. What **problems** does this health unit face, e.g., do salaries come on time, is the HUMC useful, etc.?

8. **Patient attendance for preventive services (during 1999)**

Type of Service	Number of Patients
Immunization - DPT2	
- Polio3	
- TT pregnant	
- TT non-pregnant	
Antenatal Care	
Family Planning	
MHC Services/Deliveries	

FORM NO:[ ]

9. **Outpatient attendance** according to age, sex and diagnosis, January 1998 to December 1998.

Month	Total	Age Group				Sex		Number of cases by diagnosis				
	Number	< 5	6-14	15-49	>50	M	F	Malaria				
January												
February												
March												
April												
May												
June												
July												
August												
September												
October												
November												
December												

10. **Inpatient attendance**, January 1998 - December 1998

FORM NO:[ ]

Ward: _____			
Month	No. of Beds	No. of admissions	No. of patient days
January			
February			
March			
April			
May			
June			
July			
August			
September			
October			
November			
December			

FORM NO:[ ]

11. **Prescription patterns** for the five most common diseases. January 1999 - March 1999.

Month	January	February	March	Total
Condition/Treatment				
1. Malaria				
2.				
3.				
4.				
5.				

FORM NO:[ ]

Prescription patterns for the five most common diseases. January 1999 - March 1999.

Month	January	February	March	Total

FORM NO:[ ]

Financial Position of the Health Unit

12. What was the **income from cost-sharing** January 1998 - December 1998?

Month	**Amount**
January	
February	
March	
April	
May	
June	
July	
August	
September	
October	
November	
December	

13. What **other sources of income/financial support** has the unit received during 1998?

Amount	Source	For what

FORM NO:[ ]

14. **Total expenditure for 1998**

Items/resources	Quantity	Cost/value	Source
A. Staff (different categories) - - - -			
B. Drug kits - essential drugs - drugs from district			
C. Supplies & equipment - medical equipment - other equipment - uniforms			
D. Maintenance and repairs - building maintenance - medical equipment maintenance - other equipment maintenance			
E. Utilities - electricity - water - rent - other			
F. Allowances - EPI allowances - CDD allowances - other allowances			
G. Transport - for training - for outreaches - fuel			
H. Cost-sharing expenditure - - - -			
I. Other expenditure - - - -			

15. Total debts for 1998

Specific information	Amount

Annex B: Step-down Costing

This annex gives detailed guidance on the methodology for performing step-down costing. In order to provide variety, we shall use a hospital setting; the procedure can also be modified to suit a smaller health institution.

1. Cost Centers

In order to accumulate costs it is necessary to first define cost centers or departments. These may be defined in relation to the health facility's own financial and activity units. A cost center need not be a department; it can be either a location (e.g. Pediatric Ward) or simply a significant function of which management wants to keep track, (e.g., "Lighting and Heating"). Some cost centers may not be significant in terms of their output or costs (inputs) and may simply be grouped as part of the institution's administrative costs.

Cost centers can be classified as *Final, Intermediate (ancillary) or Overhead*.

▲ *Overhead*. These cost centers produce only services that are consumed by other departments (cost centers), not by patients. Examples include Administration, Housekeeping, Maintenance and Utilities.

▲ *Intermediate*. These cost centers produce services that are used by other departments, but also provide services directly to patients. Examples include Laboratory, X-ray, Operating Theater, and Physiotherapy.

▲ *Final*. These cost centers provide services directly to patients, not to other departments. Examples are Wards and Outpatient areas, which may also be further separated into specific departments such as Medicine, Surgery, Obstetrics-Gynecology, and Pediatrics.

In order to facilitate analysis, costs will be broken down into as many cost centers as management needs information on. The following table below shows examples of cost centers.

Final (Direct) Cost Centers	**Wards**	**Outpatient**
	Pediatric	Adult Casualty
	Medical	Pediatric Casualty
	Maternity	Maternal/Child Health
	Surgical	Family planning
Intermediate Cost Centers	Theatre	X-ray
	Intensive Care Unit	Laundry
	Pathology	Kitchen
	Pharmacy	
Overhead	Administration. Includes all costs that are shared across the hospital, e.g.,	Personnel costs
		Heat, light & power
		Maintenance

2. Sources of Data

Cost information can be obtained from the institution's published financial statements or, better still, from a detailed "trial balance" from which the published financial statements would have been prepared. Where management accounts are available, these may also be a useful source of detailed cost information.

Information on the usage of services (e.g., CSSD, Laundry, and the Ancillary Departments) can be obtained from the department providing the service. For example records in the Laboratory will indicate the source of the patients who received lab tests by ward name, outpatient area, operating theater, etc. Data on the space occupied by the various departments can be obtained from the Administrators or Operations Managers or Maintenance Department. This data is important where some costs are space-related, as we shall see below. Staff utilization can be obtained from the head of nursing and the medical officer in charge of doctors' duty roster.

3. Costs

3.1 Direct Costs

All costs that can be directly identified with a cost center are allocated to that cost center. If the accounting system is sophisticated enough, these may already have been charged to the relevant cost centers. However, in many cases, you will have to compute how much should be charged to each cost center. Direct costs include Labor (Salaries/wages and staff benefits); Drugs and other medical supplies; Food. The following paragraphs explain how to allocate these direct costs.

Staff Costs

This is the total payroll cost including benefits. Staff numbers and costs can be computed using the actual basic salaries for staff who work in each cost center. Staffing details can be obtained from the head of nursing (matron) and the doctor in charge of allocating doctors to various stations. Total staff costs can be obtained from the Finance Department. The costs of doctors or nurses who work in more than one area can be allocated to each cost center based on an estimate of the time spent in each area.

Once you have computed the basic salaries of all the staff in each cost center, you use the proportions of each cost center's basic salaries to the total basic salaries to allocate the total *actual* staff costs (basic salaries, benefits, and over-time).

Drug Costs

There are various ways of allocating the total expenditure on drugs to cost centers. If the accounting system is sophisticated enough, drugs and medical supplies may be charged directly to the user cost centers when the cost center requisitions them from the pharmacy or store. Where this does not happen, the first step is to eliminate from the total expenditure on drugs those drugs and medical supplies that are purchased for specific cost centers. For example, purchases for the Laboratory and X-ray may be included in the total cost of drugs and medical supplies in the accounts. Remove these department-specific costs and put them in the correct cost center. The following procedure is for the allocation of the non-specific supplies. We will look at two ways of dealing with them here.

i. One method makes allocations based on a selection of issues from the Pharmacy. Most health institutions do not have a cost center structure and therefore the cost of drugs issued to any of the user departments is not normally known. Therefore, it is necessary to estimate the annual usage by each of the cost centers. To do this, take a sample of the most common drugs and medical supplies issued from the pharmacy to each department for at least three months. The pharmacist can help to you identify what would be a representative sample. You will probably find that fewer than 15 items may account for up to 75 percent of the total cost of drugs. Calculate the cost of drugs issued to each cost center. The costs so obtained for each department are used as the basis for allocating total drugs costs.

ii. The second method is based on an estimate of the average consumption per patient visit. The drug costs for each cost center are estimated based on the volume of patients and the average cost of drugs per visit. The average cost can be obtained from a sample of billing records – the larger the sample, the more accurate the estimate will be. The average cost is multiplied by the volume of patients to arrive at an estimated drugs cost for the cost center. The resulting total cost is compared with the total in the accounting records and adjustments made to ensure that the total allocated is equal to the actual cost in the accounts:

$$\frac{\text{Estimate for Department}}{\text{Estimated Total Cost}} \times \text{Actual Cost of Drugs} = \text{Allocation to Cost Center.}$$

If the accounting system captures information on revenue from drugs and medical supplies by cost center, you can allocate the total cost of drugs to the cost centers based on the relative proportions of income from drugs for each cost center.

Other direct costs

Other direct costs can be allocated to the relevant cost centers based on usage. For example, the use of electricity may be allocated on the basis of the area (square footage) occupied by each cost center. It may also be possible to obtain estimates of usage from senior staff in the cost center. For example the head of the Laundry may supply estimates of the usage of laundry services by the different cost centers.

3.2 Indirect costs

Indirect costs (overheads) are accumulated under the Administration cost center. Any costs that cannot not be easily allocated as direct costs to cost centers are placed in the Administration cost center. The administrative costs are apportioned to all Intermediate (Ancillary) and Final Costs Centers based on any appropriate basis. Bases for apportioning indirect costs include:

- Proportions of direct costs
- Staff costs
- Staff numbers

4. Apportionment of Costs

The purpose of step-down costing is to make sure that all the hospital's costs end up in the Final cost centers. The apportionment of costs must follow a certain order, making sure that once a cost center's costs are charged out to others, it cannot thereafter receive a charge from any costs center.

To begin with, arrange your cost centers in descending order of the number of other cost centers their costs can be charged to: i.e., the cost center that gives service to the highest number of other cost centers should be at the top of the list. For example, if the Personnel department is one of your cost centers, this may be at the top of the list because it serves all other cost centers. Based on the hospital example above, Table A.1 illustrates the order.

Table A.1 Cost Center Apportionment

Charging Cost Center	Receiving cost centers	Basis of allocating costs
Overhead		
Heat, Light & Power	All cost centers	Space (square footage)
Maintenance	All cost centers, except H,L&P	Space
Other administration costs	All cost centers except HL&P; Maintenance	Proportion of direct costs
Intermediate		
Laundry	All final cost centers, Theater, Laboratory	Kilos of laundry
Laboratory	All final cost centers, Theater, ICU	Number of laboratory tests
Pharmacy	All final cost centers	Number of prescriptions
X-ray	All final cost centers	Number of exams
Kitchen	Wards	Number of meals

4.1 Ancillary department costs

The costs of the Ancillary ("Intermediate Cost Centers") are allocated to the user (final) cost centers on the basis of usage. The records in these cost centers normally contain sufficient information on who used their services. For example, records in the Laboratory indicate the names and origin of patients on whom tests were performed. A review of these records can give sufficient information to be able to get reasonable estimates of relative usage.

Where available, the charges to patients by the final departments for ancillary services can also be used as a proxy measure on the assumption that there is a direct correlation between the prices charged and the costs incurred.

5. Volume of services

The volume of services (output) of each of the final and intermediate cost centers can be obtained from the Medical Records department or from annual activity reports. This data will be used to compute costs per unit once all costs for each cost center are gathered.

6. Example

This example expands on the one in Chapter 4. The same data is used but more detail is available. Table A.2 below shows the list of expenditures by line item as extracted from the trial balance. The basis of allocation has been decided by the hospital management. You may decide to do it differently when you apply the example to your own institution; a lot depends on how much information you have to work with.

Table A2. Expenditures by Line Item

Expense	Amount (shillings)	Cost type/basis for allocation	% of Total
Staff costs	22,940,000	Direct allocation	37%
Drugs and medical supplies	13,640,000	Direct allocation	22%
Water	2,480,000	Indirect. On basis of space	4%
Maintenance - buildings	1,860,000	Indirect. On basis of space	3%
Catering	Catering	Direct. Number of meals	14%
Heat, light & power	8,680,000	Indirect. On basis of occupied space	10%
Transport	6,200,000	Indirect. On basis of direct costs	1%
Other overheads	620,000	Indirect. On basis of direct costs	9%
Total	62,000,000		100%

A look at the cost profile for this hospital shows that the three most important costs are: staff, medical supplies, and catering. These account for 93 percent of the total costs. This helps us to see where we should spend most of our time if we want the final unit cost figures to be accurate. If we can get these three items correctly allocated to the final cost centers, we shall be 93 percent accurate in our cost computation.

Table A.3 shows how the data would look after we have allocated it to the cost centers. All costs that cannot be allocated to any intermediate or final cost center are placed in the Administration cost center.

Table A.3 Example: Cost Center Allocation

	Admin. (overhead)	Laboratory (intermediate)	Theater (intermediate)	Outpatient (final)	Wards (final)	Total
Staff costs	2,111,400	458,800	849,200	4,982,200	14,538,400	22,940,000
Drugs and medical supplies	0	1,131,700	1,290,800	3,017,800	8,199,700	13,640,000
Water	2,480,000					2,480,000
Maintenance - buildings	298,600	99,500	210,000	450,000	801,900	1,860,000
Catering	0	0	0	0	8,680,000	8,680,000
Heat, light & power	910,000	310,000	650,000	1,550,000	2,780,000	6,200,000
Transport	620,000					620,000
Other overheads	5,580,000					5,580,000
Total direct costs	12,000,000	2,000,000	3,000,000	10,000,000	35,000,000	62,000,000

Apportionment

The next step is to begin the apportionment of the shared costs in the stepped manner described above, starting with the cost center that gives service to the biggest number of other cost centers. In this case, it is the Administration department. The process from here on is as given in the earlier example which is reproduced below.

You are told that the total output of the laboratory was 4,000 tests, of which 50 percent was for outpatients, 40 percent for inpatients and 10 percent for theater. The theater is used on average, 80 percent for inpatient (major) surgery; 20 percent is for outpatient cases. The hospital, further, had 50,000 outpatient visits and 20,000 inpatient bed days. You are required to allocate the Administration and Laboratory costs and calculate the average cost per inpatient day and per outpatient visit.

Table A.4 Example: Costing of Services

	Admin. (overhead)	Laboratory (intermediate)	Theater (intermediate)	Outpatient (final)	Wards (final)	Total
Staff costs	2,111,400	458,800	849,200	4,982,200	14,538,400	22,940,000
Drugs and medical supplies	0	1,131,700	1,290,800	3,017,800	8,199,700	13,640,000
Water	2,480,000					2,480,000
Maintenance - buildings	298,600	99,500	210,000	450,000	801,900	1,860,000
Catering	0	0	0	0	8,680,000	8,680,000
Heat, light & power	910,000	310,000	650,000	1,550,000	2,780,000	6,200,000
Transport	620,000					620,000
Other overheads	5,580,000					5,580,000
Direct costs	**12,000,000**	**2,000,000**	**3,000,000**	**10,000,000**	**35,000,000**	**62,000,000**
Step 1: Allocate the costs of the overhead cost center because it serves the most number of other cost centers.[72]		480,000	720,000	2,400,000	8,400,000	Total costs allocated =12,000,000
Step 2. Allocate the intermediate cost centers costs to the final users of services. Start with the one that serves most centers.			*(10% of lab)* 248,000	*(50% of lab)* *1,240,000*	*(40& of lab)* 992,000	Allocated the Lab. costs = 2,000,000+ 480,000
Step 3. Allocate the next inter-mediate cost center – Theater on basis of usage				*(20% of operations)* *793,600*	*(80% of operations)* *3,174,400*	Allocated theater costs= 3,000,000+ 720,000+ 248,000

[72] Allocation of administration overhead costs has been done on the basis of the proportions of direct costs.

Total Cost				**14,433,600**	**47,566,400**	**62,000,000**
No. of services				50,000	20,000	
Unit costs (rounded)				289	2,378	

After the above allocations, the total costs of the two final cost centers are given in Table A.5 below. Unit costs are also analyzed by line item so that you can see what cost element contributes the most to your costs.

Table A.5 Final Cost Centers

Cost item	Outpatient (sh)	Cost per unit	Wards (sh)	Cost per unit	Total (sh)
Number of services	50,000		20,000		
Direct staff costs	4,982,200	99.64	14,538,400	726.92	22,940,000
Drugs and medical supplies	3,017,800	60.36	8,199,700	409.99	13,640,000
Maintenance - buildings	450,000	9.00	801,900	40.09	1,860,000
Catering	0	0.00	8,680,000	434.00	8,680,000
Heat, light & power	1,550,000	31.00	2,780,000	139.00	6,200,000
Laboratory costs	1,240,000	24.80	992,000	49.60	2,232,000
Theater costs	793,600	15.87	3,174,400	158.72	3,968,000
Overheads	2,400,000	48.00	8,400,000	420.00	10,800,000
Total	**14,433,600**	**288.67**	**47,566,400**	**2,378.32**	**62,000,000**

7. Application

Knowledge of unit costs is important in the pricing of services. In a pricing exercise, you may want to know what to charge so that you cover either specific cost elements or the full cost of the service. For example, if you want to sell a package of health services to a corporate client who wants to buy health care for its staff, you may base your contract on the full costs plus a margin for a surplus because the number of staff may not be very large. If the facility is entering into a contract with a CBHF scheme with many members, a good knowledge of the detailed breakdown of costs would be invaluable in setting price levels. In such a case, you may even agree on a price that does not cover the full unit costs but makes a sufficient contribution (price less variable costs) that the volume of business helps you to cover your fixed costs.

Annex C: Sample Questionnaires for Internal Control and Auditing

The following questionnaires are intended for guidance to those who perform a management or systems audit of a scheme. At the end of the audit, a report should be prepared covering the following matters:

- Objectives
- Methodology
- Results
- Recommendations
- Application

In summary, it should cover the following areas:

1. An analysis of the general environment, including any new policies and competitors. (The SWOT analysis used in Chapter 1 can be updated with any new developments for this purpose).

2. To what extent the activities of the scheme have helped it reach its objectives. (The business plan in Chapter 3 should be used to benchmark any progress, as well as the Monitoring and Evaluation section in Chapter 8.)

3. The key performance areas, areas of organizational strength and problem areas; how well they are detected, communicated, and closely monitored.

4. The financial results and any improvements, including whether it is necessary to increase the premium or not, and the potential consequences of increasing the premium.

5. How satisfied the members are (based on surveys).

6. How well the important assets are protected.

7. Status of human resources.

8. Future activities and outlook, as well as required resources.

1. Auditing the Strategy

Question	Answer			Basis for Answer		
	Yes	No	NA	Observation	Discussion	Testing
Is the mission of the scheme clearly defined?						
Is there a strategic plan?						
Is the plan realistic and does it take into account the internal and external environment of the scheme?						
Is there an action-plan for the implementation of the strategy?						
Is management aware of the performance indicators used in the sector?						
Is performance evaluated periodically and the action-plan readjusted in consequence?						
Is there a marketing strategy?						

COMMENTS: For weaknesses indicated above and in all the other questionnaires, recommend corrective actions that should be taken. Update this checklist to monitor the weaknesses.

Remarks:

Recommendations:

2. Auditing Treasury Management

Question	Answer			Basis for Answer		
	Yes	No	NA	Observation	Discussion	Testing
Does the scheme hold financial reserves?						
Is the level of reserves satisfactory?						
Are the financial resources optimized(investment of excess)?						
Are the accounts payable and receivable accounts at appropriate levels?						
Is the scheme able to respect payment dates?						
Does the scheme possess a satisfactory accounting system?						
Are the managers capable of analyzing financial statements on their own?						

3. Auditing Record-keeping and Archiving Systems

Question	Answer			Basis for Answer		
	Yes	No	NA	Observation	Discussion	Testing
Are all transactions documented and operations of the scheme promptly entered into the MIS system, if available?						
Are the files well constituted, complete, and updated on a regular basis?						
Are the invoices and supporting documents well documented and filed?						
Are the personnel files well constituted?						

4. Auditing Human Resources

Question	Answer			Basis for Answer		
	Yes	No	NA	Observation	Discussion	Testing
Are job descriptions available, including background and competency requirements?						
Are new employees trained?						
Is staffing adequate?						
Is the turnover rate comparable to the rate in the industry?						
Is there a reward system in place?						
Are human resources optimized?						

5. Auditing Management Tools

Question	Answer			Basis for Answer		
	Yes	No	NA	Observation	Discussion	Testing
Are information technology resources available and effectively used?						
Are they sufficient and do they respond to the needs of the scheme?						
Is the accounting system up-to-date?						
Are the accounting and financial reports produced on time?						
Have indicators been developed?						
Is the budgetary system efficient?						
In general, are the management tools optimized?						

6. Cash Management

Question	Answer			Basis for Answer		
	Yes	No	NA	Observation	Discussion	Testing
Is there a secure location for cash deposits such a bank or safe?						
Does the scheme deposit each day's receipts intact and without delay?						
Where is the deposit made? (bank, safe, etc.)						
Are deposits made by someone other than the cashier?						
Are the cashier's duties segregated from the recording of the cash receipt or accounts receivable?						
Does a responsible employee other than the cashier investigate any payments/transfers from the deposit location?						
Do the procedures prohibit the cashier from gaining access to the accounts receivable accounts and monthly bank/safe statements?						
Does someone other than the cashier handle the petty cash fund if there is one?						
Does a select group of individuals retain the right to have the exclusive right to withdraw funds? If not, note who else does have such rights.						
Is there a withdrawal co-signature authority process?						
Do strong controls exist that highlight when cash should be received but was not?						
Does the cashier assume full responsibility for the receipts from the time they are received until the time they are handed over for deposit?						
Is the cash adequately safeguarded (physically) within the facility?						

7. Cash Management - Receipts

Question	Answer			Basis for Answer		
	Yes	No	NA	Observation	Discussion	Testing
Is an independent listing of receipts prepared before they are submitted to the accountant?						
Does a third party verify this listing against the deposit slips before it is deposited?						
Are receipts deposited each day?						
Do procedures restrict the accounts receivable bookkeeper from: Preparing the bank deposit? Obtaining access to the cash receipts book? Having access to collections from participants?						
When transactions occur, do all receipts have pre-numbered identification?						
Are all receipts accounted for daily and matched with the cash collections?						
Are authenticated duplicates of the deposit slips retained and reconciled to the corresponding amounts in the cash receipts records?						
Does someone prepare a daily report of balances?						

8. Cash Management - Methods of handling cash

Question	Answer			Basis for Answer		
	Yes	No	NA	Observation	Discussion	Testing
Are receipts recorded by cash registers or other mechanical device?						
If so, are the machine totals independently verified by others outside of the area?						
Are the unused receipt books, if any, properly safeguarded?						
Do adequate controls exist to prevent misappropriations of cash by the cashier/accountant such as fictitious discounts, waivers, allowances, etc.?						
Do the recipients of miscellaneous receipts of cash, such as from the sale of equipment, report them to management? (Manager? Board of directors?)						
Are reports compared inde-pendently to the related cash and bookkeeping entries by the accountant?						

9. Supplies and Equipment/inventory

Question	Answer			Basis for Answer		
	Yes	No	NA	Observation	Discussion	Testing
Are the supplies and equipment of the scheme kept under the strict control of a few designated employees?						
If practical, are inventories recorded monthly in accounting books?						
Are receiving reports or notifications made on the arrival of supplies and equipment?						
Are receipts for issuance of supplies or equipment made under a specific system of designated authorizations?						
Are physical inventories taken at least yearly (or periodically within a year)?						
Is inventory supervised?						
Is the equipment labeled and classified properly?						
Do all inventory records show quantities, unit costs, and aggregate values?						
Are the inventory records maintained and accessible by individuals other than those who have access to the inventory?						
Have there been any reports of theft?						

10. Payroll

Question	Answer			Basis for Answer		
	Yes	No	NA	Observation	Discussion	Testing
Are wage rates authorized in writing by the board of directors?						
Is the payroll double-checked as to the hours worked, rates, payroll deductions and taxes?						
If the payroll is delivered by check, are the checks pre-numbered? Are blank checks in a secure area?						
If cash wages are paid, are payroll receipts maintained by employees?						
During disbursements of cash payrolls, is the area of disbursement secure?						
Are payroll checks or cash disbursements only picked up by the employee?						
Is the process for adding an employee to the payroll in control and done through cross-authorization procedures (more than one management signature)?						
Do cash records of payroll match bookkeeping records and reconcile to bank amounts?						

Are audits of the payroll periodically made by independent auditors?						
Are statutory deductions (tax, insurance etc) remitted to the relevant authorities in time?						

11. Purchase and Equipment Management

Question	Answer			Basis for Answer		
	Yes	No	NA	Observation	Discussion	Testing
Are purchases made only after respective authorization signatures according to a written policy?						
Are purchase order authorizations required for all purchases?						
Are purchase prices thoroughly reviewed and checked by a knowledgeable employee?						
At the time of receipt, are purchased quantities checked against actual receipt quantity?						
For items that are not tangible such as utilities, is there any reconciliation of amounts paid with amounts consumed?						

Annex D: Glossary of Terms

Adverse selection: A situation in which patients with greater than average need for medical care enroll in a prepaid health care plan in greater numbers than they occur in a cross-section of the population.

Auditing: Examination of an organization's financial statement and the degree to which the statement reflects the actual affairs of the organization. It can also include an examination of the organization's compliance with its own policies and with grant and contract obligations, of its management efficiency, or of its quality management.

Balance sheet: A summary statement indicating the status of an organization in terms of its assets and liabilities.

Baseline survey: Instrument to measure existing conditions within a given population. Baseline surveys pose systematic, in-depth questions to household representatives or members in order to collect basic information on knowledge, attitudes and practices within a community.

Break even point: The level of output at which total income is equal to total cost.

Budget: An itemized summary of probable expenditures and income for a given period.

Business plan: A brief description of how the organization will carry out its mission. It provides focus for the organization, highlights its financial feasibility and sustainability and creates a basis for setting priorities and allocating scarce resources.

Capitation: Flat, periodic payment to a physician or health care system per person cared for ("per capita"). The provider assumes that the payment will cover the costs for whatever the patient needs.

Community participation: Process of involving people from a specific geographic region or place in the organization, planning, decision making, and implementation of projects or programs for the benefit of the greater region.

Catastrophic risk: The probability that very unusual events of significant magnitude will occur.

Cost escalation risk: Danger that a scheme will face rapidly rising costs due to behavior of patients and providers, especially at the initiation of the scheme operations.

Decentralization: Total decentralization in an organization means minimum constraints and maximum freedom for managers to make decisions at all/peripheral levels of an organization.

Demand analysis: Estimate of the expected need or desire for a product in a target audience over a period of time.

Depreciation: Annual reduction in the value of durable assets as a result of deterioration, wear and tear due to use, and technical enhancement.

Direct costs: Costs that are directly related to a service, program, project, product, activity, or other cost objective. An example is the cost of gasoline used by project vehicles.

Evaluation: An activity through which relevant information is collected and analyzed in order to judge how well a program is achieving (or has achieved) its objectives.

Feasibility study: Assessment of internal and external factors that predict success or failure of a project or activity.

Financial feasibility: Estimation of the potential revenue and expenses associated with a project and analysis of its profitability over time.

Fixed costs: Costs that do not vary with minor changes in program size. Examples include the costs of buildings, permanent staff, and medical equipment.

Fraud and abuse risk: Danger faced by an insurance scheme when individuals attempt to enjoy the benefits of the scheme without bearing the cost of the services rendered.

Income and expenditure statement: Summary of an organization's revenue and expenses over a given period.

Indicator: Quantitative variables that measure or assess the achievement of project objectives or help to compare expected results with actual results.

Indirect costs: Expenditures that permit functioning of a unit or make it possible to deliver a service, even if the cost is not directly associated with the service delivery.

Infant mortality rate: Number of infants (0-12 months of age) per 1,000 live births who will die within the first year of their lives.

Management: The art and science of getting things done through people.

Market analysis: Comprehensive assessment of a target population and its need for a given product or service.

Market strategy: An approach or plan to follow in providing products or services to the target population. Based on the results of a detailed market analysis and data collection efforts, the marketing strategy presents a "big picture" of how a scheme intends to register families and individuals in communities.

Maximum demand: Level of total need for services among a population in a given area.

Mission statement: Statement indicating the philosophy of the facility group or institution and expressing its faith, beliefs, and values. It is also a statement of its commitment.

Monitoring: Process of routinely gathering information on all aspects of the project on an on-going basis.

Moral hazard: The propensity for insured persons to buy more of a good (in this case health care) than they would if they had to pay out-of-pocket for it.

Morbidity rate: The number of individuals who became ill expressed as a proportion of those at risk (per 100 or 10,000 or 100,000.)

Mortality rate: The number of individuals who died expressed as a proportion of those at risk (per 100 or 10,000 or 100,000.)

Premium: Payment required by an enrollee or sponsor of an insurance policy for a given period of time.

Prepayment plan: Contractual arrangement for health care in which a pre-negotiated payment is made in advance, covering a certain time period, and the provider agrees, for this payment, to furnish certain services to the beneficiary, member, or enrollee.

Risk management: The process by which tools or techniques are employed to minimize the impacts of negative outcomes.

Social marketing: Systematic communication of ideas and information to people with the aim of altering individual human behavior for a social good.

Step down costing: Method for allocating all of a health facility's costs to direct (or final) cost centers involved in service delivery to a patient.

Sustainability: The capacity of an organization to continue the provision of high quality services to its intended population at a steady or growing level while lessening dependence on external support.

SWOT analysis: Brainstorming exercise that identifies the Strengths, Weaknesses, Opportunities, and Threats the scheme should take into account in its planning. The strengths and weaknesses are usually internal but the opportunities and threats are external.

Training: Process to help individuals develop knowledge, skills, and attitudes.

Variable costs: Costs that vary with program size. Examples include the cost of drugs, gasoline, and vehicle maintenance.

Annex E: References

Abt Associates Inc. 2000. *Job Description for Director of Operations,* internal document. Bethesda, MD.

Aga Khan Foundation. 1993. *Sustainability Analysis: Module 9 – Facilitator's Guide*. Washington, DC.

Akin, John, Nancy Birdsall, and David de Ferranti. 1987. *Financing Health Services in Developing Countries: An Agenda for Reform.* A World Bank Policy Study. Washington, DC: The World Bank.

American Institute of Certified Public Accountants, http//www.aicpa.org.

Arhin, Dyna Carol. 1995. *Rural Health Insurance: A Viable Alternative to User Fees? A Review and Evidence from Three Countries.* London, United Kingdom: London School of Hygiene and Tropical Medicine.

Atim, Chris. September, 2000. *Training of Trainers Manual for Mutual Health Organisations in Ghana*. Bethesda, MD: Partnerships for Health Reform Project, Abt Associates Inc.

Atim, Chris. 1998. *The Contribution of Mutual Health Organizations (MHOs) to Financ ing, Delivery, and Access to Health Care: Synthesis of Research in Nine West and Central African Countries.* Technical Report No. 18. Bethesda, MD: Partnerships for Health Reform, Abt Associates Inc.

Barnum, Howard and Joseph Kutzin. 1993. *Public Hospitals in Developing Countries: Resource Use, Cost, Financing.* Baltimore, Maryland: The John Hopkins University Press.

Bertrand, Jane, Robert Magnani, and James Knowles. 1996. *Handbook of Indicators for Family Planning Program Evaluation.* Chapel Hill, NC: The Evaluation Project, Carolina Population Center.

Bennett, Sara, Andrew Creese, and Roeland Monasch. 1998. *Health Insurance Schemes for People Outside Formal Sector Employment, Current Concerns ARA Paper Number 16.* Geneva, Switzerland: World Health Organization.

CCH Business Owner's Toolkit Guidebook, Marketing Strategy, http://www.toolkit.cch.com/text/p02_5421,asp.

Centre for Development and Population Activities (CEDPA) and the Prerana Population Resources Centre. 1996. *Reproductive Health Manual for Trainers of Community Health Workers*. Washington, DC: CEDPA.

Centre for Social Marketing, University of Strathclyde. 1999. *What is Social Marketing?* http://www.strath.ac.uk/Other/csm/What.htm

Creese, Andrew and Joseph Kutzin. September 1995. *Lessons from Cost-Recovery in Health; World Health Organization Forum on Health Sector Reform Discussion Paper No.2.* Geneva, Switzerland: World Health Organization.

Diakonhjemmet International Centre and Jimma Institute of Health Services. 1997. *Sustainability of Health Structures and Systems in Sub-Saharan Africa: The Ethiopian Case: Studying the Community Health Service Center in Jimma*. New York, New York: UNICEF.

Edmond, Janet, Richard Killian, and Stephen Musau. June 1999. *PHR Trip Report: CBHI Workshop and Kenya Activities.* Bethesda, MD: Partnerships for Health Reform, Abt Associates Inc.

Eichler, Rena. 1999. *Performance-Based Reimbursement of Rural Primary Health Care Providers: Evidence from Kenya.* Arlington, Virginia*:* Presentation by the Health Reform and Financing Program, Management Sciences for Health.

Else, Bradford. November 1999. *Improving Sustainability through Multi-Disciplinary Financial Management: A Training Manual*. Bethesda, MD: Pathfinder International South Africa Program and Abt Associates Inc.

Entrepreneur Magazine. 1999. *"Writing a Business Plan."* Online Issue. 10/14/99. Available from www.entrepreneurmag.com/page.hts?N=846&Ad=D

Family Planning Service Expansion and Technical Support (SEATS II) Project. June 2000. *Guide to Leveraging: How to Mobilize and Diversify Resources for Reproductive Health*. Arlington, Virginia: John Snow, Inc.

International Labour Organization (Solidarite Mondiale). 1996. *Mutual Health Organizations in Africa; A Practical Handbook for Promoters, Managers, Administrators and Staff of Voluntary, Non-Profit and Participatory Health Improvement Organizations in Africa*. Dakar, Senegal: Programme BIT-ACOPAM.

Kadder, Miloud, Bruno Galland and collaborators. 1997. *Children in the Tropics: Pre-Payment of Health Care. No. 228,* Paris, France: International Children's Centre.

Kak, Lily. 1999. *Trainer's Manual for Monitoring and Evaluation for PVOs and NGOs.* Washington, DC: NGO Networks for Health.

Kutzin, Joseph. 1997. *Health Insurance for the Formal Sector in Africa: "Yes, but…" Current Concerns ARA Paper Number 14.* Geneva, Switzerland: Division of Analysis, Research and Assessment, World Health Organization.

Kutzin, Joseph and Hugh Waters. 1994. *Health Sector Financing and Sustainability in Sub-Saharan Africa: A Strategic Framework for Setting Priorities.* Washington, DC: Support for Analysis and Research in Africa Project, US Agency for International Development.

Management Sciences for Health. 1998. *CORE: A Tool for Cost and Revenue Analysis User's Guide*. Boston, Massachusetts.

— 1998. *Final Report on the Consultative Meeting with Cooperating Agencies, Family Planning Management Development Project, Rosslyn, Virginia, April 30, 1998.* Boston, Massachusetts: MSH.

— 1999. *Increasing Community Participation.* http://erc.msh.org/chs/tools/increase.htm

— 1999. *The Family Planning Manager's Handbook.* http://erc.msh.org/fpmh_english/chp10/chklist_1.html.

Mumford, Elizabeth A., Varuni Dayaratna, et al. 1998. *Reproductive Health Costs Literature Review, The POLICY Project Working Paper Series No. 3.* Washington, DC: The Futures Group International.

Musau, Stephen N. August 1999. *Community-Based Health Insurance (CBHI): Experiences and Lessons Learned from East and Southern Africa*. Technical Report No. 34. Bethesda, MD: Partnerships for Health Reform, Abt Associates Inc.

Olsen, I.T., and S. Mogedal. 1993. *"Sustainable Basic Care and the Public/Private Mix." Forum for Development Studies* 1:87-100.

Partnerships for Health Reform Project. 1999. Unpublished reports from seminar on developing management tools for IPMs in Senegal, September 6-10, 1999. Dakar, Senegal.

Redroban, P., Hernan and Flores J. Augusto. 1997. *Costs Handbook for Primary Health Care: A Focus on Management.* Quito, Ecuador: CARE/Ecuador and USAID/Ecuador, APOLO Support for Organizations Project.

Riverside Publishing Company. 1994. *Webster's II, New Riverside University Dictionary.* Boston, Massachusetts: Houghton Mifflin Company.

Robles, Andrea, et al. 1999. *Qualitative Evaluation of the Community Health Fund (CHF) in Igunga District.* (Final Version for the Tanzania Ministry of Health). Dar es Salem, Tanzania.

Sangana, George Salo. September 1998. *Community Participation Towards Health Financing Programmes in Tanzania: "Experience of Community Health Fund in Igunga District"- Plan of Action.* Leeds, UK: University of Leeds, Nuffield Institute for Health.

Schieber, George. 1997. *Do We Have Innovations in Health Care Financing: Proceedings of a World Bank Conference, March 10-11, 1997*. World Bank Discussion Paper No. 365. Washington, DC: The World Bank.

Shaw, R. Paul and Martha Ainsworth. 1995. *Financing Health Services through User Fees and Insurance: Case Studies from Sub-Saharan Africa.* World Bank Discus sion Paper No. 294. Washington, DC: The World Bank.

Shaw, R. Paul and Charles Griffin. 1995. *Financing Health Care in Sub-Saharan Africa,* World Bank Directions in Development Series. Washington, DC: The World Bank.

Sikosana, P.L.N., Q.Q.D. Dlamini and A. Issakov. 1997. *Health Sector Reform in Sub-Saharan Africa: A Review of Experiences, Information Gaps and Research Needs, Current Concerns ARA Paper No. 12*. Geneva, Switzerland: Division of Analysis, Research and Assessment, World Health Organization.

Soderlund, Neil and Solani Khosa. 1997. *"The Potential Role of Risk-Equalization Mechanisms in Health Insurance: The Case of South Africa." Health Policy and Planning* 12(4):341-353. Oxford University Press.

Stone, Ralph. 1997. *What's Your Role?: Training for Organisational Impact. A Guide for Training Officers in Protected Area Management.* African Biodiversity Series, No. 5. Washington, DC: Biodiversity Support Program.

Weinreich, Nedra Kline, *What is Social Marketing?* http://www.social-marketing.com/whatis.html

World Solidarity and Programme ACOPAM. 1996. *Guide Parctique a l'usage des promoteurs, administrateurs, et gerants, Mutelles de Sante en Afrique.* Dakar, Senegal: Bureau International du Travail, Solidarite Mondiale, and L'Alliance Nationale des Mutualites Chretiennes de Belgique.

Wouters, Annemarie and Bradford Else. April 1996. *Implementing Management Accounting and Control Reforms in the NIS; A Manual for Health Care Organizations.* Bethesda, MD: ZdravReform Project, Abt Associates Inc.

Wouters, Annemarie and Bradford Else. 1995. *Financial Management and Control: A One Week Workshop, Version November 30, 1995.* Bethesda, MD: ZdravReform Project, Abt Associates Inc.

Community-based Health Financing Toolkit

Version 1

Introduction

This toolkit provides an overview of various software products designed to assist health professionals to provide services within the context of a community-based health financing (CBHF) scheme or organization. Due to the wide range of financial and administrative capacities of many CBHF organizations, data management needs will therefore also be varied and dependent on existing resources, staff, and other conditions in the schemes.

This collection of tools – otherwise known as the CBHF toolkit – ranges from software packages specifically designed for use in CBHF schemes, such as the Nkoranza Scheme membership database, to standard financial management packages that can be tailored to meet individual scheme needs. For example, the HIMCIS software, a finance and accounting system package designed specifically for the Chogoria Hospital Insurance Scheme in Kenya, has been modified and implemented across the East Africa region by several emerging CBHF schemes. The experiences of these schemes in adapting the programs to best fit their needs have yielded valuable "lessons learned," which are included in the discussion of HIMCIS strengths and limitations.

The systems presented here pose great potential for improving performance and tightening operations within individual schemes. Each software overview provides specific details concerning operating requirements, key features, and strengths and limitations. This toolkit does not advocate the adoption of one software package in favor of another. Instead, the toolkit presents options for financial and operational management, in line with the principles and concepts outlined in the CBHF manual. Reference information on how to obtain copies of the application systems is given at the end of each section.

PHR welcomes comments and suggestions about the utility and effectiveness of any of the software included in this toolkit, and we encourage users to contact PHR staff at 4800 Montgomery Lane, Suite 600, Bethesda, MD 20814, or via email at pubs_order@phrproject.com.

The Nkoranza Scheme Membership Database Program (Access Database)

1. Introduction

A database is a collection of information related to a particular subject or purpose, such as tracking customer orders or maintaining membership. If a database is not stored on a computer, or only parts of it are, tracking information – possibly from a variety of sources – must be done manually, and then coordinated and organized.

Microsoft Access allows all information to be managed from a single database file. Within the file, data is divided into separate storage containers called tables; table data are viewed, added, and updated using online forms. It is possible to find and retrieve only the data needed using queries and to analyze or print data in a specific layout using reports.

Access is included in the Microsoft Suite packages installed on many computers – it is not a "specialty" program. It can be tailored to suit the user's need, which is why it is so useful. For example, PHR consultant Ms. Madjiguene Sock used Microsoft Access to create a membership database tracking system for a mutual health organization in Ghana, called Nkoranza. This database facilitates the production of statistics, ratios, and trends/charts for the Nkoranza Health Insurance Scheme. These functions are used to evaluate strengths, weaknesses, opportunities and threats of the scheme. The results are analyzed and corrective and/or consolidating actions identified and carried out. The Nkoranza database can be adapted to other schemes.

Financial statements are created in Excel using the data in the Access database. The file produces statements of income and expenditure and balance sheets. The data are used to create graphs and diagrams to enable users to visualize the information more clearly. This also enhances analysis capabilities for some people.

2. Equipment and Skill Requirements

Microsoft Access simply requires an IBM-compatible computer, Microsoft Windows 95 or updated versions containing Excel and Access, and a compatible printer (if necessary).

Data entry and report printing are straightforward and require only basic computer skills. With limited training and practice, the system is easy to use — it does not require previous experience or knowledge of computer systems or programming.

3. Features

The Nkoranza Scheme database has several "layers": the two main parts consist of **data entry** and **queries**. The data entry involves entering data in numerous and various tables. The database includes the following **tables**:

- ▲ Membership List,
- ▲ Field Workers,
- ▲ Diagnosis,
- ▲ Billing, and
- ▲ Premium.

Queries are "questions" that can be answered by tabulating and/or calculating data from one or more tables. The Nkoranza Scheme database has two types of queries. The first is a **listing**, which lists the information requested (i.e., Household Head Search by Last Name). The second type of query is a **count**, which is a calculation of the factors in the query (i.e., Expenses per Diagnosis per Month). It takes only seconds to perform these functions once the initial data has been entered. The advantages of this database include:

- ▲ Simple data entry with a step-by-step guide.
- ▲ Ability to compare various data regarding payments, membership, and illnesses.
- ▲ Ability to tabulate and calculate membership data based on the criteria above.
- ▲ Simple to update without having to update each table.
- ▲ Ability to reflect information as graphs and charts.

4. Management Information

4.1 Membership Tracking

The database allows for entry of names and corresponding information entered in other tables (e.g., premiums paid, family members, diagnoses). Membership records are easy to update and expand. This allows managers to see information (called **fields***)* such as **Insurance Number, Name, Relationship, Date of Birth, Sex, Occupation, and Location**.

4.2 Field Workers

This information is located in its own table and contains much of the same information as the membership table. In addition, it includes the date of hire and the employee ID number, which allows a user to see which field worker entered specific data. This function helps to strengthen management since it provides a level of accountability in the record-keeping process.

4.3 Diagnosis

This table contains a listing of the most frequent diagnoses in the catchment area of the scheme and is composed of an **Identification Number** and the name of the diagnosis. The use of this table allows managers to effectively gauge the health status of the community. Information in the table can also be used to plan future preventative health measures.

4.4 Billing

This table includes a description of the bills and fields, such as admission and discharge dates, diagnosis, type and cost of service rendered, and cheque number. This table is useful to managers who want to keep track of membership payments and patient costs, and it provides ample detail in order to track individual payments.

4.5 Premiums

This table describes membership payments and status. The fields in this table include amount and date payment was received, waiting periods, expiration dates, membership status, and the name of the field worker handling the registration.

4.6 Financial Statements

The **financial statements** file was created in Excel and aims to produce:

- ▲ Statement of Income and Expenditure, and
- ▲ Balance Sheet.

To facilitate the production of a statement, the user can use the **Cash Book and Bank Book**, which are provided in the spreadsheets. They include information on Receipts (e.g., new registrations, renewals, interest on savings, or sales of gauze) and Payments (e.g., hospital bills, drugs, transportation, maintenance). A **Balance Sheet** is also included in order to track cash flows, accounts receivable, investments, and debt. The information in these spreadsheets can also be used to track financial ratios, discussed in the section below.

4.7 Ratios and Trends

Finally, the information management of this database includes the calculation and tabulation to retrieve ratios and trends. The financial ratios calculated are: **liquidity, solvability, Subscriptions to Expenditures, Operating Costs to Income, and Coverage of Expenses**. The statistical ratios are numerous and are based on statistics from the Database Management (e.g., **Rate of New Registrations, by Percent; Rate of Occurrence of a Type of Diagnosis; and Average Household Size**.)

These ratios and statistics can then be constructed into trends. These trends provide a basis for analysis of different population groups, for budget forecasting, and for various other studies. The ratios, statistics, and trends can be illustrated by pie-charts and graphs that either capture a moment in time or show evolution in scheme membership, financing or other parameters. The visual representation of the numbers makes them simpler to understand, and useful for teaching and comparing.

5. Contact Information

To receive a copy of the database program and/or instructional materials, contact the Partnerships for Health Reform (PHR) project:

Abt Associates, Inc./PHR
4800 Montgomery Lane
Suite 600
Bethesda, MD 20814
USA
Phone: (1)-301-913-0500
Fax: (1)-301-652-3916
Email: pub_order@PHRproject.com

The Cost Analysis Tool (CAT)

1. Introduction

The Cost Analysis Tool (CAT) was developed by AVSC International and has been used by family planning service providers to perform cost analysis of clinical family planning procedures. For the purposes of health financing schemes, it can also be used to cost curative services.

The tool comes in two versions, a calculator version for those who do not have a computer, and a computer version in Microsoft Excel. The two are similar in layout; the computer version includes formulae and links between worksheets to make calculations less tedious.

The CAT is still under construction. The most significant piece that is not yet complete is the worksheet for allocation of indirect costs. Current worksheets only accumulate direct costs for each service. Until the indirect costs worksheet is available, scheme managers will have to find a suitable basis for loading some overheads onto the direct costs.

The full, calculator version of the CAT follows this description.

2. Equipment and Skill Requirements

The CAT is developed for use with minimal equipment. The calculator version only requires a calculator. The computer version can be applied with early versions of Excel as long as the linked worksheets are saved as individual files and the linked references reinput.

3. Features

3.1 Structure of Spreadsheets

The CAT consists of three worksheets: Calculation of Staff Time for Services/ Clinical Procedures; Calculation of Cost Per Minute of Clinic Staff Time; and Calculation of Service/Clinical Procedure-Specific Costs. The three are used to compute the direct cost of staff and materials used to provide service to one client/patient. Each clinical procedure requires its own set of three worksheets.

The worksheets are prepared by observer clinical and administrative staff with the logical patient/client flow within the facility in mind. The layout could be improved to make it easier for summaries of time to be prepared, as will be discussed later. The worksheets included in this toolkit currently can be completed using only a calculator; future computer-generated sheets are in the development process.

3.1.1 Worksheet I: Calculation of Staff Time for Clinical Procedures

Worksheet I tracks the patients'/clients' movement through the health facility and records the length of time by the different cadres or levels of staff taken at each stage in the process of providing a given service. Length of time taken is recorded in minutes. Once an average length of time per staff member is established, the individual times are totaled and multiplied by their salaries per minute to estimate total direct staff (labor) cost to provide the given service.

The worksheet is divided into two sections. Section 1, Steps in Service Provision, is arranged according to the steps taken in the provision of services, noting the persons who perform the service and the length of time taken.
The tables below are extracted from Worksheet I.

1. Worksheet I, Section 1: Steps in Service Provision
Clinical Procedure

	Nature of Activity – Admission and Examination		
Location	**Activity**	**Individual Response**	**Time (Minutes)**
	Register client	Receptionist	
	Collect payment	Cashiers	
	Take medical history	Nurse	
		Physician	
	Prepare room and client	Support staff	
		Nurse	
	Conduct physical examination	Physician	
		Nurse	
	Laboratory - Registration of client	Receptionist	
		Cashiers	
	Daily Tasks in Procedure Room		
	Prepare procedure room at the beginning of the day	Support staff	
	(___ minutes for ___ clients)	Nurse	
	Clean and prepare examination equipment	Nurse	
	(___ minutes for ___ clients)	Support staff	
	Clean room at the end of the day	Support staff	
	(___minutes ___ for clients)	Nurse	
	Supervisor		
	Other		

Where an activity is carried out once only for service to many patients/clients (e.g., preparation of examination room and equipment at the beginning of the day), the total time taken is divided by the daily number of clients/patients to arrive at an average time per patient/client.

The total time for each category of staff (or staff member, if there are only a few) is accumulated at the end of the worksheet by adding up all the time for each staff member.

Worksheet I, Section 2:Total Amount of Staff Time for a Clinical Procedure

This section of Worksheet I summarizes the time recorded in Section 1 of Worksheet I.

Staff	Total Time (minutes)
Physician	
Nurse	
Receptionist	
Support staff	
Operating Room (OR)Nurse	
Runner Nurse	
Lab Technician	
Supervisor	
Cashier	
Other	

The summary presented in Worksheet I, Section 2 requires the person preparing the tables to go back and add the time recorded against each staff level or member. This may lead to errors as there are many entries for each staff. An improvement would be to place the staff names/cadres across the page so that the summary for each would simply be the total at the bottom of the column. For example:

Summary Table: Staff Time Per Procedure, By Staff Member (in minutes)

Location	Activity	Receptionist	Cashier	Nurse	Operating Room Nurse	Physician	Other
	Register client	5					
	Collect payment		2				
	Take medical history			10			
	Total Time	5 minutes	2 min.	10 min.	x minutes	x minutes	

3.1.2 Worksheet 2: Calculation of Cost per Minute of Clinic Staff

This worksheet calculates the cost per minute for each category/member of staff.

A	B	C	D	E	F	G
Staff Position	**Annual Salary & Fringe**	**No. Working Days/Year**	**Cost per Day (B/C)**	**No. Working Days/Year**	**No. Working Minutes/Day (E*60)**	**Cost per Minute (D/F)**
Physician – Sessional						
Nurse						
Receptionist						
Support Staff						
OR Nurse						
Runner Nurse						
Lab Technician						
Supervisor						
Cashier						

Column A can be a list of staff names or if the number of staff is large, categories as listed above.
Column B is the annual salary including all benefits.
Column C is the number of working days in the year.
Column D is column B divided by Column C to give the cost per working day.
Columns E and F compute the number of minutes per working day.
Column G is the cost per minute (i.e., Column D /Column F.)

3.1.3 Worksheet 3: Calculation of Services and Clinical Procedure-specific Costs

This worksheet computes the total costs used in the provision of one unit of service. The worksheet is in four sections:

- ▲ Section I computes the direct staff costs.
- ▲ Section II accumulates the drugs and other medical supplies used.
- ▲ Section III summarizes the direct costs (totals from Section I and II) plus any costs charged by the laboratory for tests done and by the wards for any stay in the wards. These two costs (laboratory and cost per inpatient day) are supposed to be computed separately.
- ▲ Section IV estimates the indirect costs. This section has not yet been fully finalized and is still under discussion.

The first three sections of Worksheet 3 are examined below.

Section I. Direct Staff Time

A Staff Position	B Time Spent	C Cost per Minute	D Total Cost per Client (BxC)
Physician – Sessional			
Nurse			
Receptionist			
OR Nurse			
Runner Nurse			
Lab Technician			
Supervisor			
Cashier			
Other			
Total			

Column B gets its figures from Worksheet 1, Section 3 (summary of staff time). Column C is from Worksheet 2.

Section II. Procedure/Method-specific Supplies

The table that comprises Section II is set up to list commonly used supplies. This serves to save time of the person who fills in the table and to make sure that person does not forget the items. Items that are not on the list can be added in order to capture all drugs and supplies used.

	A	B	C	D
Item	Amount in Unit (e.g., Dozen; 1,000, etc.)	Unit Cost	Amount Used per Client/Pt	Cost per Client/patient
Chromic catgut				
Plain catgut				
Silk No. 2 or No. 0				
Cotton wool				
Strapping (tape)				
Disposable syringes 2ccs				
Disposable syringes 5ccs				
Disposable syringes 10ccs				
Disposable syringes 20ccs				
Total Supplies				

Section III. Total Direct Variable Costs

TOTAL DIRECT STAFF COSTS		
TOTAL SUPPLIES COSTS		
LABORATORY TESTS		
Daily in-patient costs @ Cost per day No of days...		
OTHER (describe:_____)		
TOTAL DIRECT VARIABLE COSTS		

The summary in Section III is described as total direct variable costs, but it includes some fixed costs such as staff costs. It is therefore a summary of direct costs.

4. Possible Uses and Limitations of CAT

Uses and Strengths

▲ The CAT is useful where cost analysis must be done with minimal equipment. The step-by-step structure is also suitable for easy learning and can be applied in clinics where staff do not have much formal education.
▲ The ability to calculate unit costs can assist managers of community-based health financing schemes to base their premiums on reasonably accurate costs of services.
▲ The format used can be easily adapted to do cost analysis of other services such as laboratory tests or x-ray examinations.

Limitations

▲ The CAT is still under construction and the issue of indirect costs needs to be addressed. Emphasis should be on ease of application rather than high levels of accuracy.
▲ The structure of the worksheets can lead to errors where one has to add many numbers from different lines to arrive at the total time for each staff cadre or member. The worksheet could be redesigned as suggested above to ease the addition.
▲ The tool can be cumbersome where calculations are required for a large number of services. Where such is the case, it would be advisable, if possible, to use the computer version.
▲ The tool does not provide information on:
- ▲ Start up costs (equipment purchase, initial training costs, etc)
- ▲ Opportunity cost to client (What does it cost the client to seek and use the service, financial as well as non-financial?)
- ▲ The quality of services provided.

The Cost and Revenue Analysis Tool (CORE)

1. Introduction

The Cost and Revenue Analysis Tool (CORE) was developed as a planning tool by the Family Planning Management Development Project and the Health Reform and Financing Program at Management Sciences for Health (MSH). CORE was designed to assist health and family planning organizations to perform cost and revenue analyses in order to provide managers with information useful to meet management goals, such as improving cost efficiencies, expanding services, and achieving financial sustainability.

CORE is a spreadsheet-based analysis tool for determining clinic costs and revenues, and it can be used to analyze existing clinic data and to look at future management scenarios. The tool consists of a User's Guide and three linked electronic spreadsheets in Microsoft Excel, available on diskette. The three spreadsheets are the:

- Service Practices worksheets, used to build a data base of information;
- Facility spreadsheet, for individual clinics and facilities; and
- Organization spreadsheet, for an entire organization.

These spreadsheets can be modified by staff over time to fit the appropriate clinical situation, including current or planned services and types of payment to human resources. CORE is designed for individual use although some organizations may require technical assistance in order to complement existing skill levels among appropriate staff members.

2. Equipment and Skill Requirements

CORE requires an IBM-compatible computer powerful enough to run Microsoft Excel Version 5.0 software, and a printer that can print A4, U.S. letter or larger size paper. In order to manipulate the spreadsheets, users should have moderate spreadsheet skills and a basic understanding of financial concepts, such as unit costs and direct and indirect costs. CORE relies on strong organizational support and an existing set of data on services, costs, personnel, and revenues, or at least a commitment to collect this information.

3. Features

3.1 Structure of Spreadsheets

CORE consists of three worksheets. The three can be modified in order to account for clinic or facility specific conditions. The CORE user's guide suggests that facility staff form a "key management team," representing various departments of the facility, in order to ensure full staff understanding of and participation in the CORE analysis process.

Worksheet 1: Service Practices Worksheets

The Service Practices Worksheets require clinic managers and staff to build a database of information on current costs and revenues. There are four required "pillars" of information, which are necessary to feed into the worksheets. These are:

- ▲ Pillar 1 Services;
- ▲ Pillar 2 Personnel;
- ▲ Pillar 3 Cost Elements; and,
- ▲ Pillar 4 Revenue.

Altogether, there are nine steps involved in completing the database

Pillar 1 involves three steps.

1. Develop a list of services provided.
2. Establish categories of services.
3. Determine the volume of each service.

Pillar 2 outlines all personnel information.

4. Identify all facility personnel and collect compensation data.
5. Determine how personnel spend their time (between administrative and direct service).

Pillar 3 looks at cost elements.

6. Determine personnel time and materials used in each service.
7. Determine other fixed operating costs and regional/central costs.

Pillar 4 examines revenues.

8. Determine fees charged for each service.
9. Determine factors that reduce revenue.

The Service Practices worksheets appear at the end of this review text. They show the basic steps involved in determining unit costs for materials and supplies, as well as personnel time and costs per service.

Worksheet 2: Facility Spreadsheets

This set of spreadsheets calculates costs and revenues at an individual facility. The main spreadsheet is broken down into seven sections:

Section A	Summary of Key Information
Section B	Determining Service Volume
Section C	Determining Costs
Section D	Determining Revenue
Section E	Determining Direct and Indirect Staff Costs
Section F	Determining Staff Salary Costs
Section G	Determining Other Fixed Operating Costs

These files can be modified to suit individual facility conditions and services. (See sample spreadsheets at the end of the review text.) Once data has been entered into these spreadsheets, the files can be linked to the Organization Spreadsheets to ensure accurate comparisons across facilities.

Worksheet 3: Organizational Spreadsheets

This spreadsheet allows managers to compare summary data from numerous facility spreadsheets. The spreadsheet is divided into three sections:

- Section A Cost Recovery Summary by Service Category
- Section B Key Information Summary
- Section C Staff Utilization Summary

Once the organizational spreadsheets are complete, managers will be able to examine financial and operational indicators to help answer specific questions about service operations, such as:

- What proportion of our service is covered by service revenue?
- Which services are generating income surpluses and which are producing losses?
- How can our program produce services at the lowest cost?
- What are the cost and revenue consequences of changing our mix of services?

4. Possible Uses of CORE

Uses and Strengths

CORE can be a very useful tool to:

- ***Increase operating efficiency***. Users and managers can use CORE information to eliminate unnecessary costs, improve budgeting, develop efficient standard practices, and increase staff utilization.
- ***Improve cost recovery.*** Based on scenarios run with CORE, managers can examine ways to offer a mix of services in a benefits package, promote profitable services, discontinue services with low demand, and change service fees and premiums, if a CBHF scheme is in place.
- ***Enhance sustainability through well-planned expansion of services.*** CORE can help managers to develop reliable service delivery and financial plans for new clinics and to identify areas for fundraising efforts.

5. Contact Information

CORE can be obtained by contacting MSH's Family Planning Management Development Project, Publications Department, 891 Centre Street, Boston, MA 02130-2796, or on email at fpmdpubs@msh.org. The phone number is 617-524-7766. A fee of $50 US is charged for copies of the user's guide and diskette.

The Quicken Financial Management and Accounting Software Package

1. Introduction

Quicken software programs were developed by Intuit, Inc. in 1984, for personal finance management and for use in small business environments to assist in cash management, bank account reconciliation, and simple transaction recording and sorting. Intuit also produces a more complete and complex business accounting program known as QuickBooks.

There are currently four versions of Quicken marketed in North America: Quicken Basic; Quicken Deluxe; Quicken Home and Business and Quicken Suite. For potential application in CBHF schemes, Quicken Basic would most appropriately meet the basic financial management needs for a start-up or small-scale scheme. For larger-scale schemes, Quicken Home and Business might be more suitable to management needs.

Quicken Feature Comparison Chart

	Quicken Basic 2000	Quicken Deluxe 2000	Quicken Home and Business 2000
Enter transactions and maintain balances	Yes	Yes	Yes
Create reports and graphs	Yes	Yes	Yes
Track budgets and loans	Yes	Yes	Yes
Track investments		Yes	Yes
Create invoices and track accounts			Yes
Track accounts receivable, accounts payable, and reimbursable expenses			Yes

A Quicken “user’s guide” exists for each specialized version of Quicken. For Quicken Basic, technical support can be accessed via the Internet at http://www.intuit.com/support/quicken/search.html. Users can select from a list of topics or use the KnowledgeBase to search for frequently asked questions and topics.

2. Equipment and Skill Requirements

Operation of Quicken Basic 2000 requires at a minimum a 486 or higher IBM-compatible computer with at least 16 MB or Ram and at least 45 MB of free space on the hard disk. The program is MS-DOS based and runs in Microsoft Windows 98, 95 or NT4. More sophisticated programs have greater technical and hardware requirements.

With all Quicken products, the process of entering data and printing reports is straightforward and requires only basic computer skills. With limited training and practice, the system is easy to use. Quicken provides a user-friendly method of data management which is not based on knowledge of spreadsheet programs or formulas.

3. Features

Quicken provides users with several options for designing a standardized structure for recording and reporting financial expenditures and income. A number of standardized reports can be programmed in to the Quicken database in order to meet the financial management and reporting requirements of organizations or schemes.

3.1 Management Information

3.1.1 Bank Account Management

All financial transactions are entered into the checkbook or "register" incorporating the following information:

▲ Check (or Receipt) Number – sequential number for tracking checks and financial transactions.

▲ Date – the date of the transaction.

▲ Payee – a brief descriptive name of the recipient of each of the transactions.

▲ Amount – the amount of the transactions in standardized currencies.

▲ Category/class – the accounting category and accounting class to which income and expenses are recorded. Both the category and the class are completely user defined.

▲ Category field – can be adapted to include business-specific items and expense codes. The class field can be modified to include project-related tasks for multi-tasking.

▲ Memo – for further remarks to describe the transaction.

Sample transactions:

Number	Date	Payee		Payment	Deposit
		Memo	Category		
0001	05/08/00	ABC Medical Supplies Surgical gloves	 Medical Supplies	 $50	
0002	07/08/00	Harambee Store Paper and pens	 Office supplies	 $20	
	15/08/00	Cash deposit Clinic income	income		$500

All entries in the register may be tracked by check number, transaction number, or any other user-defined numbering system. The program includes special features to transfer funds from one account to another, handle foreign currencies, and split transactions for allocating to multiple accounts. Examples of accounts include a bank-based checking account and a petty cash account.

3.2 Creating Reports and Graphs

Standardized reports can be created to meet specific financial management tracking needs. Based on the above sample transactions, several reports could be created such as:

▲ **Transaction Reports/All:** a listing of all transactions in chronological order for all accounts, both checking and petty cash.
▲ **Transaction Report/Bank account:** a listing of all transactions in chronological order for only the checking account only.
▲ **Transaction Report/Cash account:** a listing of all transactions in chronological order for only the cash account only.
▲ **Category Report:** a listing of all transactions for a selected period grouped by accounting category.
▲ **Class Report:** a listing of all transactions for a selected period grouped by accounting class.

3.3 Business Features

Unlike Quicken Basic, Quicken Home and Business offers several features which might serve CBHF schemes to better manage finance and accounting operations. This more sophisticated program allows businesses to create and track invoices, print reports on accounts payable and accounts receivable, and manage business taxes.

4. Possible Uses and Limitations

Key advantages of the Quicken software include:

▲ Streamlined data-entry time by having "memorized" transactions, which reduces the burden of entering recurring transactions;
▲ Accuracy in bank reconciliation using same system as data entry;
▲ Ability to reflect an operating bottom line account balance on a daily basis; and
▲ Reporting and tracking of expenses by charge codes and cost categories in a consistent format – all accounts and categories can be customized.

A main disadvantage of Quicken is that it is not a double-entry accounting system. This system was originally designed for personal finances and therefore no internal control mechanisms are included in the software structure to protect against manual corrections or changes to previous entries in the transaction log. This means that there is the potential for error without careful review by project managers.

5. Contact Information

Quicken corporate offices are located in the United States at 2535 Garcia Avenue, Mountain View, CA 94043, phone: 1-650944-6000. Contact information for international offices can be located at http://www.intuit.com/corporate/contact.html.

The Health Insurance Membership, Claims and Information Systems (HIMCIS)

1. Introduction

The Health Insurance Membership, Claims and Information System (HIMCIS) was developed by Management Sciences for Health (MSH) for use at the Chogoria Hospital Insurance Scheme in Kenya. The "HIMCIS was designed to provide a way for the hospital to easily enter and report on memberships of the insurance scheme, and access and report on service delivery data and insurance claims"[72]. The Kisiizi Health Society of the Kisiizi Hospital in Uganda managed to adapt the HIMCIS and used it for a while.

The User's Guide for the system is written in a style that assumes only a low level of computer literacy and hence can be used quite easily by anyone who can follow instructions in the manual and on screen.

The program is MS-DOS based and is written in FoxPro, a database language. It is menu-driven with easy to use pull-down menus and on-screen instructions to guide the user.

2. Equipment and Skill Requirements

The HIMCIS requires as a minimum a 486 computer with at least 65 megabytes of free space on the hard disk.

The process of entering data and printing reports is straightforward and requires only basis computer skills. With training, the system is easy to use. Because the program is written in FoxPro, it may present some problems if anything goes wrong (as it did in Kisiizi) and there is no programmer available who is familiar with that programming language.

3. Control Features

The HIMCIS is developed with various insurance related controls built in. These include:

- ▲ Recognition of pre-existing conditions;
- ▲ Monitoring of utilization by each member;
- ▲ Control over exceeding expenditure limits for the cover category;

[72] Management Sciences for Health. April 1997. *"User's Guide to Health Insurance Membership, Claims and Information System, Ver. 1.4."* Boston, MA: Health Financing Program.

▲ Monitoring clinicians' prescribing patterns; and
▲ Reports on the five most common diagnoses' cost of treatment for members of the scheme.

4. Management Information

The system is designed to provide some useful reports to assist management to keep track of the performance of the scheme. The reports can either be printed or viewed on screen. Some of the reports give the user the option to "query" the system in order to limit or filter the records used to create the report. For example, one may only want the report to contain information on a selected number of clinics, members, time period, etc. The standard reports are:

4.1 Membership Report

The membership report is produced monthly and gives the status of current membership. It shows for each member whether premiums are paid to date and the amount of claims to date. This helps the clinic managers to determine those members who are not eligible for care, either because they have not renewed their membership or have reached the ceiling of their cover. The database can be queried to provide the information in the format that the clinic manager requires.

4.2 Report of Current Membership

This report is run for each clinic. It provides each clinic/hospital with a monthly list of members who are assigned to that facility. This assists the provider to know which members will be using that facility as their "designated" clinic for first contact and, if necessary, referral to a higher facility. It also shows the membership status for each member.

4.3 Members who Cannot Claim

This report is similar to the Membership Report but only shows those who are not eligible to claim.

4.4 Members Due for Renewal

This report enables the administrator to remind members about the imminent expiry of their membership. It shows the due dates for renewal.

4.5 Insurance Claims

This report shows the status of claims and payments between the scheme and the insurer or provider. It tells how many claims are submitted each month, the value of the claims paid, and how much is outstanding at the end of the month.

4.6 Membership Utilization and Cost Report

This report shows details of costs of claims by membership category. It breaks down costs between outpatient and inpatient services. The report computes costs per outpatient visit and per inpatient admission for the scheme members. The average length of stay is also provided.

4.7 Costs by Diagnosis

This report gives information on the top five diagnoses as sorted by frequency of occurrence. The report also shows the costs related to the treatment of these cases. This report helps the scheme administration to monitor the health problems of the membership and how much of the hospital's resources have been used up.

5. HIMCIS Utilities

The HIMCIS contains various "utilities" to manage data. These are:

Utility	Function
Backup	Copies the HIMCIS files onto floppy diskettes or restores from the floppies onto the hard disk.
Pack Database	Removes files that have been "marked" for deletion. HIMCIS does not delete files immediately but only "marks" them until the database is packed.
Process Claims	Used to mark claims that have been processed.
Claim Paid Date	Used to enter the date when a claim has been paid by the insurance company or hospital.
Rejection	Marks claims that have been rejected, hence not paid.
Archive	Used only on membership or claims records that are more than two years old; it compresses data and saves it (archives it) so that it does not take up much hard disk space. Such archived data can also be "Unarchived."

6. Maintenance of Database Tables

The database for HIMCIS stores basic data about diagnoses, clinics, doctors, membership groups (e.g., cooperative societies) pre-existing conditions, scheme types, services provided, and lists of procedures and drugs. The maintenance menu allows one to update the data in these tables; for example changes in costs/charges for drugs.

7. Contact Information

For information on the HIMCIS software program, contact MSH Publications, 891 Centre Street, Boston, MA 02130-2796, or by email at fpmdpubs@msh.org. The phone number is 617-524-7766.

Overview of CBHF Management, Operational and Financial Control Systems: Off-the-shelf Solutions

This CBHF Tookit contains working descriptions of four management systems that are in use in various community health financing and managed care systems in the East and Southern Africa region. Some of the systems are available as freeware and are supported by detailed user manuals and user guides. Other systems are available at a small fee to cover postage and packing or documentation. Still others are available as budget or low-cost entry-level systems.

In addition to the systems reviewed above, a very large number of "off-the-shelf" accounting systems and financial management software are available. Many run on a wide combination of database and hardware platforms and provide easy integration for third-party applications and tools. Some can also be implemented as part of a two tier strategy by using the systems in conjunction with enterprise solutions (see below) such as SAP or Oracle, but the cost of these are probably too high for most schemes.

Off-the-shelf systems can provide a flexible solution to a range of CBHF operational and management system requirements. Such systems can often be implemented and operated in any country in the world. They are also adaptable and flexible to meet changing requirements thereby avoiding the costs of replacing or modifying systems every few years. They are designed to deliver information needed to make decisions and can be installed to match the business infrastructure and operational and organizational settings of any particular CBHF scheme.

As business solutions, off the shelf software can offer extremely robust scaleable systems with fully integrated business application areas benefiting from considerable experience, a standard (fast) implementation and trained local support teams. Therefore, it may be possible to adapt available financial and business modules of off-the-shelf software (as well as any related reporting and business intelligence tools) by selecting the best mix of available products that meet the needs of any particular CBHF scheme. New system development can then be restricted to unique scheme (and special local) requirements using databases that are fully supported by the core system. This provides the scheme with a complete financial, accounting, and operational control system usually covering financials (general ledger – nominal, sales and purchase ledgers, budgeting, and fixed assets management); business modules (sales and purchase order processing, and inventory/warehouse control) and payroll/personnel-human resource management. This approach may be preferable to designing a system from scratch to deal with specific fund or scheme details and ignoring or postponing the mainstream accounting system requirements.

1. Analyzing Software Systems

The strength, reliability, security, and functionality of off-the-shelf software rely on suppliers being able to supply a single core product that works across the world rather than providing a range of different local products. Specific local requirements are met by

developing international functionality that is widely applicable to different settings.

Scheme-specific accounting and reporting requirements can often be managed in an integrated way without the need for specially modified or tailored systems (although some complementary applications may need to be developed). This means that the standard features of the system are used universally for routine accounting records and transactions and financial reporting, as well as for scheme particulars.

1.1 Software Example: Sunsystems

The following examples illustrate how the *SunSystems* Financials and Business software can accommodate specific aspects of CBHF financial management requirements. See Section 3 under the list of available accounting software; other products have similar functionality.

a) Analysis of customers or members

The standard chart of accounts can contain a section or group for all scheme members treating them all as debtors, and related **customer** address codes can be set up for invoicing. Address analysis codes can be used to analyze members by:

- Sex
- Age
- Employment status/category
- Location – primary health care facility
- Risk adjusted category
- Scheme category – benefit limits
- Level of co-payments or deductibles
- Other categories.

b) Scheme benefit limits

Benefit limits can be set using normal debtor credit limits or business intelligence tools that allow users to dynamically analyze and monitor selected data and automatically generate and distribute reports.

c) Invoicing the insurance or community fund – flexible prices and charges for services

Invoicing can be done using the normal Sales Invoicing module. Complex pricing is handled through calculation functions supporting cumulative quantities, customer or membership groups, product or service categories, even individual customer account categories and date ranges for services provided. This flexibility allows the user to utilize the system to match pricing or specific charging requirements for different benefit packages and customers.

d) The burden of specific diseases and analysis of scheme costs by diagnosis

Transaction-level analysis that can be passed to the general ledger can capture information on diagnosis and any other related classifications for cost analysis.

Thus, analysis with *SunSystems* can be applied to transactional as well as referential data. The user decides not only how many analysis categories there are, but also how large they are. This flexibility allows performance to be analyzed at a number of levels for better cost control and for development of improved revenue.

Specific report writers are available for supervisory staff to produce a range of standard and customizable reports as well as flexible status information and management information. Business intelligence tools extend the reporting capability through the capacity to monitor specified financial data and to make automated responses that are determined by user-defined criteria or conditions to trigger reports.

Most mid-range financial software, such as *Sunsystems*, includes an integrated general ledger and full multi-currency support. The business modules provide full sales and purchasing functionality and an inventory control system, and some systems offer full supply chain management. Multi-dimensional analysis will extend to all modules providing insurance scheme and fund managers with extensive management information.

Some products may also offer more flexibility in the form of fully customizable accounting systems that can adapt to a scheme's accounting and reporting needs rather than forcing the scheme to adapt to the system. No program, however, will answer all scheme requirements, given the normal constraints of time and money. Therefore a scheme should approach the process of selecting systems (and an experienced local supplier) with an open mind and a clear understanding of what it wants to achieve and, if necessary, in what stages. Selection of a program must be methodical and identify scheme priorities clearly.

The use of consultants who have worked through the process a number of times can make the task more manageable.

2. Choosing the Appropriate System

Choosing an accounting and financial management system that will fulfill current needs and cope with the development/expansion of a hospital-based insurance scheme, a managed health care plan, or community health fund involves four key steps.

These steps are not an exhaustive list of what to do, but they are intended to cover the basic requirements in order to permit a client/consultant team to develop a more specific brief. Very detailed checklists are available for each of the main modules of a complete suite of financials and business software, which can be a useful starting point. Most mid-range software, however, offer extensive functionality, and it is quite possible that the basic product will include system functions that go well beyond the immediate requirements of a scheme.

2.1 Requirements Analysis

▲ A thorough analysis of requirements is the crucial first phase in the selection process in order to shortlist the right software solutions. These requirements should take into account scheme objectives, staff and customers as well as competition and the possibility of a quickly changing market.

▲ Consider the current system and existing hardware and software and how a new system would fit in with the existing one.
▲ What is the budget for the software, new hardware, training, support, and consultancy?
▲ What will be the timeframe? Must a new system be phased in?
▲ Identify the scheme's key requirements, — which are necessary and which would be "nice to have." Are there any requirements that cannot be foregone, e.g., amount fields must be long enough to take maximum transaction values in the local currency. Should some screens and windows use local language?
▲ Which business or operational procedures could (or should) be changed during the process?
▲ On the basis of this analysis, the scheme should draw up a solution requirement and send it to up to six suppliers that could potentially provide a solution within the budget.

Notes

Developing a basic needs definition from scratch can take a great deal of time. A number of companies specialize in assisting organizations to define their accounting software requirements in as much detail as possible.

In some cases computer-based needs-analysis programs may be used to compare needs against commonly available products on the market and rank these products according to how closely they match the user's requirements. These systems are based on a very large number of questions concerning the functions, features, and reports supported by the various products on the market. By indicating which features are of interest and the relative weight or importance given to each selected feature, these computer-based selection tools generate reports comparing your requirements against available products and also compare different products side-by-side. This allows the buyer to see which products provide the best fit and the relative strengths and weaknesses of particular solutions. The service may be available for under $500 and provide access to features of over 150 products.

Some software sellers may provide limited selection assistance free on-line but with a restricted product selection.

Consultancy and computer assisted services in this area may extend to include assistance with creating a user specific Request for Information (RFI) or Request for Proposal (RFP).

2.2 Shortlisting and Obtaining Solution Demonstrations

▲ The scheme should shortlist the potential suppliers down to three and assess both the suppliers and the software.
▲ Arrange to visit the shortlisted suppliers.
▲ Reference site visits should be made if possible (especially if the proposed investment is large) as well as telephone calls to other customers. (Local suppliers should provide details of relevant work that they have carried out.)

▲ Based on solution requirements, the accredited local suppliers should be in a position to demonstrate a flexible prototype that shows how their product can be tailored to fit the scheme's specific needs.
▲ The scheme should establish whether this solution involves more than a standard implementation, provided on time and within budget. If so, what level of system customization is required?
▲ The scheme should expect to provide extensive information, to commit a great deal of time and resources to ensure a successful implementation, and be prepared to refine its needs.

2.3 Contract Negotiation, System Installation, and Implementation

▲ Once the scheme decides on a software solution, it should obtain a formal proposal and ensure its own statement of requirements forms part of the contract and that all program customization, including screens/windows, reports and analysis tables, is fully described.
▲ It should negotiate payment terms.
▲ It should ensure that the supplier has mapped out a draft implementation or project plan and that its own internal resources will be available for the implementation stage.
▲ The scheme should have a comprehensive test plan that will cover all normal and abnormal processing cycles and ensure that any pre-production and pilot tests are complete.
▲ Installation requires the scheme to work as the partner of the supplier, and interim delivery milestones need to be set.
▲ Installation will cover a number of tasks:

- ▲ converting data from the existing systems and any previous software
- ▲ ensuring that data is ready to use
- ▲ managing customizations to fit specific needs of departments and individuals
- ▲ setting up security procedures
- ▲ tailoring reports
- ▲ preparing training material

2.4 Deployment and Training

The scheme should:

▲ Ensure that the written test plan is worked through.
▲ Extend training to all new users and ensure that the system is stable.
▲ Make sure that each person working with the system knows how to use the system correctly and efficiently.
▲ Once the program is in use keep an issues log of problems.
▲ Review after one and three months, and implement any corrective action.
▲ Keep track of updates and new products and services.

3. Internationally Available Accounting and Business Solutions

The following list contains the names and website addresses for a selected number of commonly available accounting software packages provided by resellers and agents in the East and Southern Africa region. This list is not intended to be an exhaustive catalogue of every accounting package on the market and no recommendations regarding the suitability for any specific application are implied. The list demonstrates the range of off-the-shelf solutions that are available from a number of countries worldwide and for which there may be a number of re-sellers offering some competition in prices to provide a starting point for a solution search.

Some of the suppliers offer a range of different products in addition to the main package listed and some products may have different names for different markets.

Website addresses are given for initial contact information – many sites contain detail product lists and product flyers and some may even provide interactive demonstrations, rolling demonstrations, and tutorials. Examples of industry specific solutions may also be given as well as recommended system requirements.

Products are grouped by three main category/price lists in the following order:

1. Mid-range to high-end software.
2. Starter to mid-range software – low end or entry-level systems suitable for very small schemes.
3. Enterprise-level systems.

Companies are shown in alphabetical order with the name of selected systems in bold.

3.1 Mid-range to High-end Software. Priced from Around $10,000

Systems in this range are most likely to meet the overall requirements of larger CBHF schemes and especially hospital provider based schemes.

Access Accounting Ltd
Access Accounts V3
Email: info@access-accounts.com
Web: www.access-accounts.com

ACCPAC International
ACCPAC Corporate Series 4.1
Email : cyrus.razzaghi@accpac.com
Web: www.accpac.com

Agresso Group ASA
Agresso Financial 5.2
Email : sales.support@agresso.co.uk
Web : www.agresso.com

Damgaard International A/S
XAL
Email : jsc@dk.damgaard.com
Web : www.damgaard.com

Epicor Software Corporation
Platinum for Windows
Email : jnorwood@epicor.com
Web: www.epicor.com

Exchequer Software
Exchequer Enterprise
Email : info@exchequer.com
Web: www.exchequer.com

Great Plains Software
Dynamics version 5.1
Email : mwilking@greatplains.com
Web : www.greatplains.com

Navision Software A/S
Navision Financials version 2.00
Email : sales@navision.co.uk
Web : www.navision.com

OpenAccounts Ltd
OpenAccounts Financials 4.0
Email : jj@openaccounts.com
Web: www.openaccounts.com

Sage Enterprise Solutions
Sage Line 200, Sage CS/3, Sage Premier, Sage Enterprise
Email : enquiries@sagetetra.com
Web: www.sage.com

Scala International AB
Scala version 5.1
Email : info@scalabs.co.uk
Web : www.scalaworld.com

SquareSum PLC
Dream version 2.6
Email : philw@squaresum.com
Web : www.squaresum.com

Solomon Software
Solomon IV
Email : uksales@solomon.com
Web: www.uk.solomon.com

Systems Union Group Ltd
SunSystems Financials
Email : marketing@systemsunion.com
Web : www.systemsunion.com

TAS Software PLC
TAS Books Accounting Plus v3.15
Email : sales@tassoftware.co.uk
Web : www.tassoftware.co.uk

UA Corporate Accounting
UA Corporate Accounting – Professional and Enterprise
Web : www.uacorporateaccounting.com

3.2 Starter to Mid-range Software

Products in this category include Intuit/*Quickbooks (Quicken) (*see further details in section 4 of this toolkit) and other entry-level accounting packages and mid-range software which represent a good upgrade path from *QuickBooks*, etc.

Examples include :

Best!Ware
MYOB
Web: www.myob.co.uk

Map Pastel
Pastel Accounting
Email: info@pastel.co.uk
Web: www.pastel.co.uk

Peachtree Software Inc
Peachtree Complete Accounting, Peachtree 2000
Email : sales@peachtree.com
Web : www.peachtree.com

Pegasus
Opera II
Email : sales@pegasus.co.uk
Web : www.pegasus.co.uk

Sage
Line 50, 100, 200 etc
Email : info@sage.com
Web : www.uk.sage.com

3.3 Enterprise-level Software Priced from $50,000

Financial software systems are usually modules within the E Business range of products. Software and installation costs will usually be outside the budgets of most CBHF schemes.

Baan Company
CODA-Financials v 7.0
Web : www.coda-financials.com

Geac Corporation Ltd
SmartStream Financials
Web : www.smartstream.geac.com

Lawson Software
Insight (Financials)
Web : www.lawson.com

Oracle Corporation
Oracle Financials (E Business suite)
Web : www.oracle.com/

SAP
R/3 (Core enterprise applications for financial accounting, logistics and human resources)
Web: www.sap-ag.de

4. Further Information on Software Selection

The Business Accounting and Software Association (BASDA) in London is involved in independent software accreditation and certification (mainly for European markets). BASDA's website is at www.basda.org; it contains up to 400 companies listed worldwide. Software searches can be made by module (Payroll, Pharmacy, Purchasing Consortium, Financials, Accounting and e-business) and for different platforms and price ranges. A number of the member companies have opted to link their listing to their own websites, and this can provide access to further up to date product information.

Notes

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Funded by:
USAID Regional Economic Development Services Office /
East and Southern Africa (REDSO/ESA)